The Builder.

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Later Scotch Castles.

THE second volume of the valuable work on "The Castellated and Domestic Architecture of Scotland,"* the first volume of which we noticed in the *Builder* for December 25, 1886, is fully equal to the first in interest and in the number and variety of its illustrations. The authors, as before observed, divide the history of Scotch castle-building into four periods, of which the three first were treated of in the first volume, the second volume being entirely occupied with the works of the fourth period, ranging from 1542 to 1700. These, again, are sub-divided into "keep plans;" "L plans;" "Z plans," or plans with two towers at diagonally opposite angles; "castles with courtyards," and "departures from traditional types."

We have to deal in this period with the change from the old massive but semi-barbarous castle architecture, in which there was little or no attempt at architectural effect for its own sake, strength being the sole object, to the semi-palatial castle architecture of the Renaissance period, which slowly but surely invaded Scotland, as it had already conquered the rest of Europe. The authors remark at the outset on the curious anomaly by which the introduction of artillery, instead of leading, as one might expect, to a greater development of strength and mass in the castles, had the opposite effect, as far as regarded castles built as private residences. It was perceived that the new arm was too powerful to be permanently resisted by any such defences as a private castle-owner could erect, and the attempt to build castles to resist a siege was abandoned accordingly, and the nobles contented themselves with fortifying their dwellings so far as to be capable of resisting a sudden attack. The erection of castles to resist artillery, it was tacitly acknowledged, "must be a national matter, and the construction of castles of defence was henceforth left in the hands of the Crown." The authors also consider, and no doubt rightly, that the Reformation, with its accompanying secularisation of church property, was an indirect influence in the development of Domestic architecture in Scotland at this period; the nobles being enabled, to a great extent, to seize on and appropriate the church property, and being thus provided with funds to spend on building their own castles or mansions, by whichever term the buildings may be called.

The history of the Scotch castle forms rather a contradiction to the ordinary rule that the plan and arrangement of a dwelling is the first thing to be influenced by change in habits and advance of civilisation. For the single tower, the Norman keep form is still used in the fourth period, and the L-plan is also common in the earlier period. The main distinction was in the architectural treatment, and even here many of the keep castles of the fourth period seem as stern and unadorned as their forerunners. Indeed, the general tendency of the later castles, nearly to the end of the period taken in this volume, is to keep their walls plain and unadorned up to the corbel-table of the parapet, above which decoration is allowed to have play, sometimes with considerable richness; and it is in this period of the style that the angle turrets, corbelled out boldly, and sometimes very adventurously, from the angles at the parapet level, became common and characteristic objects, which are, indeed, often supposed to be the most marked and constant feature of Scotch castles, although in reality they only become developed at a comparatively late date. The corbel string of the parapet becomes also a very important feature now, treated in over-sailing courses, decorated with a succession of small corbels (a kind of Gothic descendant of the modillion), or with heavy mouldings one over the other, sometimes raised and depressed in a manner suggestive of battlements inverted, as in a curious example given by the authors (page 401) from Allardyce Castle in Forfarshire. The corbelled-out angle turrets do not appear as if they were meant to serve any special purpose of defence; they give the building a stern and lowering expression, a kind of architectural frown on its countenance, but they appear to have been constructed more for the purpose of obtaining some additional small rooms in the upper portion of the building than with any object in adding to the defences. One of the most typical of these keep-castles is that of Udny, well known from the effective view of it given in Billings's work, where it is shown as a plain cube of masonry, with rounded angles, rising from a level lawn, and with short built-out turrets at the angles above; two plain line elevations are given in the book before us, which do not, however, give a vivid idea of its picturesque character. The plans are also given, showing the four floors, one over the other, and the immensely thick walls. The ground-floor alone is divided out into two or three rooms by party walls; the other floors show each one large apartment within the main walls with small apartments formed in the thickness of the walls; in the top story the angle turrets form four little rooms opening out of the main room, which have quite the look of domestic attics, more especially as all their windows look outward at an angle of 45° away from the main building, and there is no suggestion of any opening so placed as to flank and defend the main wall. Altogether Udny is a curious example of a house retaining a very fortress-like appearance, but with little evidence of its having been, or intended to be, practically used as such. Since the date of Billings's work, it has been engulphed more or less in modern additions, which is the reason, perhaps, that the authors content themselves with an outline elevation of it as it formerly existed, without any attempt to give the picturesque appearance which no longer exists. The castle has been in the hands of the Udny family for centuries, and probably they were as reluctant as anyone else to see it deprived of its ancestral appearance; but the original castle could not, certainly, have been regarded as a very commodious family dwelling, according to modern tastes and requirements.

Of what are classified by the authors as the L-shaped castles, the well-known example of Glamis is one of the most remarkable, and even in its half-modernised state looks romantic enough for the associations of its name. The manner in which the quarter-circle of the staircase turret fills up the re-entering angle of the two wings is as fine and architecturally effective as if it had been devised for that especial purpose, though probably it was only regarded as the most convenient way to plan the staircase. In this and others of the larger and more elaborately-planned castles it may be observed that the corbelled-out angle turrets begin to come lower down on the walls, containing two stories of rooms instead of one. There seems to have been a progressive development of these features from earlier to later times; some embryo turrets of this kind appear in the earlier

* "The Castellated and Domestic Architecture of Scotland, from the Twelfth to the Eighteenth Century." By David MacGibbon and Thomas Ross, architects. Volume II. Edinburgh: David Douglas. 1887.

period, as in Castle Campbell (shown on page 208, Vol. I.), where the turrets seem merely balconies thrown out from the parapet, not rooms with windows; while in late examples they come far down the walls, through two or three stories, showing that internal accommodation was their real object, for no defensive purpose could well be served by bringing them nearer the ground. But the play and variety of features of this kind in different castles is very remarkable, and forms quite a study in the picturesque of architecture. At Crathes, where the building in the lower portion is a mere bare mass of masonry rising out of the ground (none of these castles have anything in the shape of a plinth), the upper part shows an extraordinary play of fancy; at the end a semi-circular corbelled turret starts half-way up the wall, carrying a square corbelled-out projection above; at the angles the rounded sides are corbelled out square at two-thirds of the height; then a round angle-tower is corbelled out from this at one angle, a square one at the other, and a projecting dormer, on a semi-circular corbel, crowns the centre of the side: string courses ramp up and down the walls, and form in their vagaries panels for coats of arms. Craigevar Castle is another extraordinary pile, with square and circular corbelled turrets rising in profusion above the main corbel line, below which all is as plain as a rock. At Elcho Castle the fancy seems to have been to have great circular turrets rising from the ground, with corbelled square stages seated astride of them at the top. Although the general character of these and other castles is the same, and speaks of the same date and place, the variety of fancy displayed in their arrangement and outline is most remarkable. Very strange and characteristic, too, is the combination of these features of a semi-barbarous architecture with the gradually-introduced bits of corrupt and peculiar Renaissance detail, many of which, in the shape of door-jambs and beadings, resemble nothing to be found in any other part of the world; they are Renaissance details acclimatised to the rude taste of the Scotland of the day. The entrance-doorway at Peppermill House (p. 169) may be specified as a most peculiar example, having a small horizontal cornice over it, with a space over that enclosed by a lanky scroll pediment broken in the centre, beneath which is a coat-of-arms; while beneath all this, the bold roll mouldings of the square-headed architrave look almost like Early Gothic in character, as far as one can judge from the small-scale illustration given. Other equally bizarre combinations are found in the doorways, as in those of Northfield House and Granton House (pp. 184, 188), both Classic in general outline, with straight-lined pediment heads over, but with the most extraordinary mouldings, — great massive hollows and rolls, like Norman work,—and the pediment at Northfield is flanked by little pepper-pot pinnacles of most singular design, considering their date and accompaniments. One would not suggest for a moment such an absurdity as imitating these eccentricities; but the study of them might suggest some new ideas in the way of combination and adaptation of Renaissance elements, with a more refined order of detail.

What the authors denominate a Z plan is a plan in which an oblong parallelogram forms the main feature, with a large tower or block attached to two of the angles diagonally opposite each other, thus making the whole plan take a kind of zigzag line. In Clavpotts Castle, which is one of the most remarkable-looking of these singularly-planned buildings, the large circular adjuncts at the angles form rooms on each story, opening out of the main block, and the staircase is in a smaller circular turret fitted into the joining of the larger one with the parallelogram. The internal division of chambers is carried out further than in most of the examples of the two former classes, and the fact that these circular angle towers, as they appear to be, are planned for living rooms, seems to indicate that the method of building employed was not for either defence or convenience, but simply because the people liked building in that way as a matter of taste. Probably the feeling for circular towers was impressed upon the Scottish taste from the time when they were used as the strongest way of building, and the most convenient way of constructing staircases within a small space, and the use of the form was continued as a matter of predilection, after any practical reason for it had ceased. The most extraordinary feature of Claypotts is the manner in which these two circular wings (rather than towers) are finished above, being corbelled out into great square lumps, with the angles sailing far out from the circular wall below, and covered with saddle-back roofs and corbie-step gables. The whole combination is about as odd as anything could be, and looks like some of the pictures of architecture on German toy-boxes of bricks. Another form of the zigzag plan is that shown in Fraser Castle, a larger and more important building than Claypotts, in which one of the diagonal wings is square and the other circular. This castle, plain as usual below, has a remarkably rich corbel string, and is also noticeable for the pretty dormer windows and richly-treated large armorial panel between them, just above the corbel string. In reference to this feature the authors join issue with Billings, who makes no doubt that this more ornate portion was a subsequent addition; or, rather, that the substructure was of earlier date than is here given to it. Billings is very full of the idea of French influence on Scotch domestic architecture of the Renaissance date, in details of this kind. In regard to this example, Messrs. MacGibbon & Ross, who have certainly studied an immense number of examples of Scotch castles, have no doubt that the plan shows this to have been of the sixteenth century, and they point out (and are certainly right in this) that it was the usual custom in the Scotch castles to leave the lower portion quite plain, and to enrich, to some extent, more or less, the upper portion above the corbel-table. We must say, however, that, as shown in their drawing, this delicate and rich bit of detail does look rather like an insertion; we should like to examine the masonry before throwing over Billings. The authors notice that in this castle there is an example of the false use of gargoyles, and their introduction for ornamental purposes only, as those of the central stringcourse of the round tower; "as also those in the corbel table of the angle turrets and under the dormers, being inserted where there are one, two, and three stories between them and the roof from which they are supposed to conduct the rain-water,"—a passage which will be a consolation and a stronghold to various modern architects who are too ready to indulge in the same bit of nonsense.

Of the castles with courtyards, one of the most remarkable is certainly Fyvie, though it may seem odd to class it so, inasmuch as the buildings actually extend only round two sides of a quadrangle, and are therefore really L-shaped; but the plan belongs to a different and more advanced type than those previously classed as L-shaped. The gate-pile of Fyvie, with its two great circular towers joined at the top by an arch carrying a gable, and with the entrance-door and three tiers of windows under it, is among the entrances of private mansions what that of Peterborough is among cathedrals. The circular staircase, too, with its segmental arches with angle roll mouldings of Early Gothic character, radiating from the centre newel, is a most remarkable piece of work. Pinkie House, as everyone knows, is remarkable for its rich and graceful internal detail, though externally it is not one of the most picturesque buildings of its class. Of all the fascinating bits in later Scotch castle architecture, however, Rowallan seems to bear the palm; there is a picturesqueness without display or pretence in those two circular turrets at the top of the external staircase, guarding the entrance, which has an indefinable charm, partly from the fact that they stand close together, the only circular turrets in the building, giving the charm of contrast with the flat walls of the rest. We do not know if this is the real explanation, but this building certainly has a poetic character peculiar to itself. Readers who are well acquainted with its exterior aspect are not, perhaps, aware how much rich and interesting detail is contained within it.

We might have said far more about the interesting and picturesque bits of Scottish architecture illustrated and described in this book. The numbered illustrations in the two volumes amount to nearly a thousand, all of them carefully executed, and exhibiting an extraordinary and most interesting medley of Gothic and Renaissance fancies intermixed and jumbled in a manner which could be found in no other country. The illustrations are all from blocks printing with the text, and this, of course, renders it difficult to realise the best artistic result in regard to texture and effect; and perhaps our one criticism would be that the drawings of some of the most picturesque buildings illustrated are rather dry and hard in style. The exterior views of Rowallan, for instance, give no just idea of the really picturesque appearance of the building: and it would have been possible to have conveyed more of this even with the drawback of a rather hard and rebellious medium of illustration. The exteriors are in many cases overshaded; they are evidently pen-drawings reduced; but less labour in shading, and some more effective touches here and there, would have given, even in block-printing, more of the character of the actual work, more of artistic expression. Every effort appears to have been made, however, to render the illustrations clear and accurate as to fact.

In a postscript the authors remark upon the great number of castles still existing in Scotland, of which no illustrations have been made and no account given. They subjoin a very long list of those known to them by name. They also add that they have spent occasionally weary days in the search for castles which were mentioned in gazetteers, but which had long ago disappeared, and they suggest a catalogue *raisonnée* of the castellated and domestic buildings of Scotland being prepared. They would also be glad to have information from those who can give it in regard to any castles of which they have not information at present. Mr. MacGibbon and Mr. Ross have worked well in illustrating the subject, and spared no pains, and they certainly merit the assistance of all who are interested in the ancient domestic architecture of Scotland. Meanwhile they have produced a most interesting and valuable book, which forms an important addition to the literature and illustration of castellated architecture.

STUDENTS' DRAWINGS AT THE INSTITUTE.

THE judges who were called upon to award the medals and prizes given by or through the Royal Institute this year can have found their task no easy one. The merit of the works in all the competitions, though not exceptionally great, was unusually equal. The Soane Medallion seems to be regaining its former popularity, and this year attracted the greatest number of competitors. It was awarded to a well-studied, practical, and not unattractive design of Renaissance character by Mr. Arthur Sykes. There is nothing very striking about it, either in the architecture, the general disposition and arrangement, or the drawing, but the whole is good; the building could be erected, would answer its purpose admirably, and be an ornament to any town and a credit to its architect. The staircase at the level of the reference library is awkwardly planned, and the accommodation for books is wholly inadequate, but the latter criticism applies equally to most, if not all, of the designs. The division of the main façade into a centre block and angle pavilions, the prominence given to the library floor by the range of great semi-circular headed windows, and

the provision of a central feature in the form of a lofty turret are all good characteristics, and the way in which provision is made for carrying the book galleries across the great windows is clever. Though we cannot be enthusiastic about the design, we entirely agree with the decision of the judges.

A medal of merit has been awarded to the design "Open to All," by Mr. George Kenyon, a scholarly work of pronounced French character and monumental effect. In plan, a good deal seems sacrificed to this monumental effect; there are no serious mistakes, and the thick solid walls and stately hall are good to behold; but the purpose of the building seems to have been a secondary consideration. In external effect the solid basement and open first story are admirable, but the effect is spoiled by a heavy and even ugly attic. The judges, in recommending this design for recognition, probably intended to mark their appreciation of the monumental and scholarly character of the work, a character too conspicuous by its absence in most of the other designs, whose merits appear to be wholly the result of individual cleverness, if they are not altogether borrowed, rather than of study or knowledge acquired. The design under the motto "Terra-cotta and Faïence" is well planned, the entrance and staircase especially so, the detail is carefully worked out, and the drawings are excellent; but, unfortunately, the general effect is heavy and tasteless. The striking piece of eccentricity represented in the masterly drawings under the motto, "Espana," for which Professor Aitchison strove unsuccessfully to obtain some recognition on Monday night, has rightly attracted more than usual attention. Whether it is beautiful, as the Professor declares, or ugly, as is the opinion of the Hon. Secretary of the Institute, may be matter of opinion; but there can be no doubt that it is a courageous and, in the best sense, strong attempt to escape from the trammels of commonplace, though it is totally unsuited for a library in any British city. The merits of the design would probably appear less if the drawings were less excellent; but there are some real merits, the chief of which is the concentration of rich ornament about the middle of the main façade and upper part of the building, whereby it is strongly contrasted with the broad unbroken wall surfaces of the other parts. That the plan is not altogether without merit, and that the important parts of the interior would be sufficiently well lit, will appear to any one who takes the trouble to look. Set down on a hot, sunny day in a quiet corner of some city in the land that inspired it, the building would certainly claim admiration; but, in a busy Midland English city, in English weather, readers would probably be repelled by its dismal unattractiveness.

Among the designs for a theatre submitted for the Tite Prize, there is nothing to claim any great amount of attention. The decision as between the successful one and that which obtained the second place would have been less easy but for the excellent planning of the entrances and exits by Mr. Frank T. Verity, who has secured the prize. Both designs are in an appropriate light description of Italian Renaissance; in both the grouping is effective, the detail correct, and the drawing neat and pretty, but neither exhibits any remarkable feature. The Grissell Medal, the subject of which, it must be confessed, was remarkably unattractive and difficult, was so ill-competed-for that it was not awarded; the drawings sent in show only attempts at remarkable *tours de force*.

The drawings and sketches sent in competition for the Pugin Studentship are a little disappointing. The "blue ribbon of the profession" used to attract a larger number of serious competitors, and when they sent all, or nearly all, the sketches they had, there was little chance of their not doing themselves justice. This year we must say we expected something better of Mr. Mallows, the winner, as well as of Mr. Kitsell, who has, quite justly, not obtained any recognition. We very much appreciate Mr. Mallows's strong, effective contrasts of light and shade, and his fearless use of the pencil; but are inclined to think Mr. Gimson's delicate and careful work, both with pen and pencil, is still better. The fire-dog from Haddon Hall, a bit of detail from Rouen, and a boy from some piece of Italian ornament, should be carefully examined. Of the other competitors, Mr. Begg has fully earned his medal of merit by his workmanlike and useful series of sketches. The Owen Jones Studentship has fallen to Mr. Lanchester for a large collection of careful and appreciative, if rather mannered, studies of Italian coloured decoration, in which he shows himself more as a painter than an architect, giving the appearance of the colours with all light and shade, without much in the way of notes to show how the effects are obtained. Mr. Masey gets a medal of merit for much more workmanlike studies, in which, however, the colour is but poorly represented. Mr. Farrow's studies from some fifteenth century rood-screens, are careful and in every way good: and Mr. Barnsley has made an attempt, which is not absolutely unsuccessful, to imitate Mr. Gerald Horsley's style of working.

The silver medal for measured drawings has been won by Mr. Allen, of Nottingham, for a carefully-executed series illustrating a part of Wollaton Hall. The geometrical drawing is neat and sufficiently good; but the freehand work, especially in the figures, is of the poorest: the drawings, both of Archbishop Abbot's Hospital at Guilford, and of a part of St. John's College, Oxford, for which Mr. F. W. Troup obtains a medal of merit, fall but little, if at all, behind the first.

The exhibition of drawings for this year's competitions is supplemented by selections from the work done on their tours by the Owen Jones Student of two years back, Mr. Gerald Horsley, and last year's Pugin Student, Mr. R. W. Paul, and we can give these works no higher praise than in saying they are as good as, or better than, those which gained their authors the opportunity of executing them.

APPROACHING COMPLETION OF THE RIVER CART NAVIGATION WORKS.

THIS scheme, which has for its purpose the widening and deepening of the originally very small River Cart sufficiently to enable vessels of large tonnage to sail ladened up to the town of Paisley, is now approaching full realisation. Paisley has hitherto ranked as an inland town, strictly speaking, but within the year it will possess a new harbour of large area, to which there will be easy access for ships drawing up to 18 ft. of water, and not exceeding 43 ft. beam. Practically, there will be no restriction as regards length. The works were described in some detail in the *Builder* of September 3, 1887, some months after the contracts had been allocated and entered upon, and it was then suggested that the autumn of 1889 would see the enterprise completed. This seems now quite certain of accomplishment, at least to the extent of a thorough practical opening of the full scope of the new navigation, while leaving, perhaps, some trifling waterside accessories to be subsequently completed. Active operations commenced just two years ago, and now a stretch of nearly two miles of the new channel (exclusive of the towing track) is in readiness. Rather more than half a mile is still in hand; but even here the whole of the surface widening is done, and the deepening is quite down to the point of low-water mark, with only a very well-defined residuum of dredging to overcome, —work which at this time is in active progress. The enlarged watercourse possesses 180 ft. of width at the surface (against less than 90 ft. before the works began), with a centre depth of 18 ft. at high water. The portions which are now finished furnish the idea of a truly spacious artificial waterway or inland ship canal,—narrower, it is true, than the neighbouring channel of the Clyde to which it leads, but still of most promising proportions. Nor is the change of aspect confined to the broadened waterway alone. Dredgings have for the most part been disposed of by "making up" the low-lying and more sterile portions of the banks, and two years of this work have transformed certain bits of the surface out of all former knowledge. The material excavated and thus deposited has been chiefly a mixture of sand and clay, on the new dressing of which the farmers have already raised excellent crops of various sorts. The eastern wall of the new harbour at Paisley, extending to 1,100 ft., has been some time finished, together with the backing and levelling for the necessary quayage space and railway approaches. Shorter of the two, by about one-fourth, is the west or Nether-common quay wall, a section which is now in vigorous progress. The course of the White Cart, as formerly pointed out, is singularly free from transverse impediment from its mouth in the Clyde, half-a-dozen miles below Glasgow, till well up amongst the streets of Paisley, a distance of about three miles. Up to this point the tide flows without any obstruction of the lock kind; there is only one intermediate bridge, and that to accommodate not a railway with frequent crossings, but a turnpike leading to no place in particular and used only by the scantiest of traffic. This bridge was built many years ago, during the course of former not very ambitious efforts at improvement on the Paisley water-course, and it was constructed on the lifting principle. When the present scheme became adopted three years ago there was no provision, much to the surprise of many, for the removal of the bridge in order to make way for one of a larger span, but only for the necessary strengthening of its foundations consequent on the increased depth of channel,—a part of the work which is now being proceeded with. It was feared that the existing bridge would constitute a serious obstruction, by placing an unnecessarily narrow limit to the breadth of ships using the improved navigation; but the cautious designers are already to a large extent justified, particularly in the successful passage, a week or two ago, of a dredger of the largest size, being quite 41 ft. beam. Some years hence, should the experience by that time attained, and the traffic prospect then ahead, warrant such a step, there will be no hesitation in substituting a new bridge of amply capacious span, but this measure is not called for just yet. Immediately above this crossing,—which is Inchinnan Bridge by name,—occurs the one actual divergence from the old course of the channel which the works present, consisting in a straight cut of a few furlongs to avoid an awkward elbow of the river, which, in times past, besides needlessly extending the course to be traversed, impeded the passage of vessels of any length, and suffered from a chronic disposition to silting and shoaling up. This new cut is practically finished, and the tidal stream will be turned into it at an early date. Deepening operations are just now going on with extraordinary diligence a little above the outfall into the Clyde, by aid of two powerful Priestman diggers; and some of the permanent mooring buoys have already been laid down for the accommodation of vessels bound inland for Paisley harbour. Excavations got from this section are not used for padding the adjoining fields, as is the case higher up, but are lightered to the mouth of Loch Long, and there shot to the sea bottom. The designing engineers, Messrs. Bell & Millar, of Glasgow and London, and the resident engineer, Mr. C. C. Lindsay, are sanguine of an easy completion within the period stated in a former *Builder* notice (above referred to), and after a careful inspection of the finished work and the portions still to be completed, there has arisen no cause for doubting the accuracy of the estimate. In view of the growing call for inland ship navigation all over the country, (particularly the present revival of a Forth and Clyde Ship Canal scheme, fully discussed in the *Builder* of Sept. 6, 1884), this example of

Paisley justly attracts an increasing attention; for, although only of very moderate length, it is essentially typical of undertakings of the kind; and, furthermore, is within a few months of being presented to the eye as a finished work, and, in its weekly and monthly traffic returns, as a virtual test of the value of large outlays of money within this particular department of engineering enterprise.

NOTES.

ON Jan. 5 we made an appeal, "To Lovers of Greek Architecture," to assist a small fund to be applied, under the direction of the British School at Athens, in obtaining the materials for the publication of full-size profiles of the mouldings of Greek architecture, asking any who were desirous to assist in this good work to send subscriptions to the Treasurer for the Fund, Mr. F. C. Penrose, St. Paul's Chapter-house. The reasons for the interest attaching to this object were touched upon in the article referred to; there should be no need, however, to urge them on any architects who are properly acquainted with the Greek chapter in the history of architecture. The response has been very meagre so far, the subscription-list at present standing thus:—

Messrs. Ernest George & Peto	£3	3	0
Mr. H. H. Statham	1	1	0
The Proprietors of the *Builder*	2	2	0

We hope this short list will be added to materially. As we said in our former article, we are given to understand that 50*l.* would pretty well do what is required, and the fact that the matter is in the hands of Mr. Penrose and of the British School at Athens is in itself a security that the money will be expended in the best manner for its purpose. Surely there must be as many as fifty architects in the United Kingdom who are sufficiently interested in the study of Greek architecture to be willing to contribute a guinea towards providing for the illustration of an important class of details, representing in a peculiar manner the intellectual refinement of the Greeks in the treatment of every detail of their architecture, and which have never been adequately illustrated or recorded as yet. Messrs. George & Peto have shown the way very handsomely: who will follow suit? If we do not do it, the Germans will.

THE Wall of Antoninus Pius is seriously menaced in its most precious section, as was incidentally mentioned in last week's *Builder*, in a short account of the proceedings of the British Archæological Association. A new branch of the North British Railway in the neighbourhood of Falkirk has been sanctioned, and the necessary ground, including a really magnificent bit of the *vallum*, has already passed unconditionally into the hands of the Company, and will soon be in the clutch of the contractor. By care, exercised without any burden of money loss, the railway might be made, and still ancient work left with hardly an additional scar,—but who is to guarantee that this reasonable care will be exercised? If the ground is attacked in the unthinking way common to railway-makers and to the sub-contractors they employ, every vestige of this rare civil engineering relic of the second century of the Christian era will be swept away irrevocably. There are very few good samples of the work of Lollius Urbicus left, and this, now so imminently threatened, is far and away the finest of all. For some distance here the mossy track of the barrier has quite escaped cultivation all these centuries, and both ditch and earthen wall, the latter on its hidden foundation of stone, are there to be seen, little altered except in so far as they have been altered by intermittent impact of the elements. The late proprietor, Mr. Forbes, of Callendar House, Falkirk, has always placed a great value on the preservation of these remains, but most unfortunately, no saving conditions whatever were procured at the time of transfer. The Archæological Society of Glasgow took the matter up in no little alarm, and memorialised the managers of the North British Railway, with the result of eliciting a reply which is courteous enough, but provides not a scrap of certainty. Of course, precaution against the possibility of so deplorable an act of vandalism ought to have been officially practicable before the sanction of Parliament was given to the Bill; but unhappily the Monuments Preservation Measure of 1882 does not provide for timely action of the kind,—and now antiquaries are reduced to a posture of abject begging and beseeching as the only means of averting what they would regard as a calamity. The new line which thus threatens archæology in Scotland is a paltry branch fork, a mile or two in length, to supply the private needs of a fourth-rate chemical manufactory!

IN the neighbourhood of Argos excavations are being carried on by local enterprise which promise to be of considerable interest. Pausanias, in going from Argos to Tegea, passed to the right the hill of Lycome, covered with cypress trees. He notes that on the summit of the hill (II., 24-5) stood the temple of Artemis Orthia, in which were statues said to be by Polykleitos of Leto, Apollo, and Artemis. The site of the temple is pretty clearly indicated by masses of fragments of vases on the slope of the hill. The gymnasiarch of Nauplia, Johannis Kophnicotis, set on foot a system of excavation, and had the good luck to light almost at once on what there seems no doubt are foundations of the temple. A considerable portion of the ground-plan has been laid bare; some of the pavement still remains, and architectural fragments, painted tiles, lions' heads, and portions of cornice have been found. The sculptural portion of the "find" is in a very fragmentary state,—pieces of drapery, an arm, a thigh,—but considering that three statues by Polykleitos are known to have stood in the temple, these deserve the most careful examination. All the remains have been made over to the museum at Argos, already rich in many objects of interest,—notably the Eumenides reliefs. An account of the discoveries appeared in the *Gnomi*, the local Nauplia paper, but our account is taken from the *Berliner Philologische Wochenschrift*, 1888, No. 52. According to this paper, no thorough examination has as yet been made of either site or fragments by a trained archæologist.

THE same paper (1889, No. 1) gives news of the rapid progress of a work of the utmost importance to students of Greek ceramography. Herr Hartwig has prepared, and is shortly to publish, a series of original and very accurate drawings of red figured kylikes. The drawings are to be life-size; they are all of vases hitherto unpublished, and many of vases till now unknown. The majority of them are inscribed with "love names," a subject to which Herr Hartwig has devoted special attention, and on which the publication of his views is eagerly looked for by archæologists, as it is hoped some light may thereby be thrown on questions of vase-chronology. Paintings from the studio of Euphronios are to be very fully represented, but vases by Hieron, Duris, Phintas, and Peithinos will also appear. Herr Hartwig began his collection in Rome, and has greatly enriched it by examples from the little-visited Bourguignon collection in Naples, and also, it will interest English readers to know, many vases from the collection of Mr. Van Branlighem which excited so much attention when exhibited at the Burlington Fine Arts Club last winter. As we hope shortly to notice the book in detail, we will not anticipate matters by a forecast of Herr Hartwig's views.

THE new Railway and Canal Traffic Act is soon making itself felt, and we hear from different parts of the country that various trades and industries are viewing its operation with considerable uneasiness. The railway companies, while apparently complying with the order to discontinue giving special privileges to imported foreign manufactures, are, at the same time, making many advances in their charges on other traffic. No increase has been made in the ordinary class rates, nor does the classification itself appear to have undergone much alteration; but the advance has been effected by the withdrawal of rebates, and the abolition of special rates. The effect of the first of these two methods is most strongly felt by some of the Yorkshire collieries, while the latter operates much more widely. A vast system of "exceptional" rates has gradually and unavoidably grown up, the ordinary classification being frequently felt to be altogether inapplicable in the face of exceptional circumstances. Railway managers probably consider the present a good opportunity for making a clean sweep of these rates, and are cancelling them right and left. But however much relief they may experience from this operation, it becomes a serious thing for manufacturers and traders who find rates suddenly sprung upon them which are largely in excess of those upon which they have based their prices; and it will probably before long be found expedient to revert to the old special rates. In fact, it is understood that the railway companies will not be unwilling to reinstate some of these rates, their object in withdrawing them in this wholesale fashion being to permanently get rid of obsolete and partially inoperative ones. We are credibly informed that tons of paper have been used in the shape of "returns" from the different stations, showing the extent to which these exceptional rates have been used in the past, for the information and guidance of the officials at headquarters. It was announced last week in the South Staffordshire district that the action of the railway companies with regard to import rates would, undoubtedly, have a great effect upon foreign competition. Should this prove to be correct, it would, of course, mean a loss to the railways of a considerable amount of foreign traffic, with a corresponding accession of home business. They will, therefore, hardly find it necessary to maintain higher rates on the latter, to compensate them for the loss of traffic which must have been carried for a very small margin of profit.

THE Lord Chancellor's fresh set of Orders, as recast in terms of the Land Transfer Act, 1875, for making a new procedure and scale of solicitors' charges in registration business thereunder, will take effect on the 1st of February next. The more important alterations are as follow:—Applicants will themselves write, on prescribed forms, the descriptions, encumbrances, &c., of the lands, and their forms will then be duly filed. This will obviate the cumbrous and tedious process hitherto in vogue of copying all such particulars into a set of costly volumes. A person applying for a "possessory" title may make his declaration unaccompanied by a solicitor. Sheets of the Ordnance Survey maps can be deposited instead of the original separate maps, upon tracing-linen, as formerly required. By this means portions of lands sold can be more readily and clearly indicated; and an officer of the Survey Department will be deputed to attend for marking off from the original deposited map, a general ordnance map being adopted for index and register purposes. That Department is authorised to supply maps *ad hoc* at cheap rates. The new system will extend to the record of certain provisions connected with mortgages, such as calling in of capital, insurances, payments by instalment, &c., — as yet excluded from charges of registered land. And for the inconvenient practice of requiring that nearly every document shall be witnessed and verified by a solicitor's statutory declaration, certificates by solicitors, bankers, magistrates, or oaths commissioners will be accepted as sufficient authentication. The Official Rules under the Land Charges and Searches Act came into force on the 1st inst.

THE suggestion for using the Crystal Palace for an International Exhibition in 1891, which has been more than once mooted in the columns of the *Times* by Mr. Ellis Lever and Mr. John Aird, is one which is well worth consideration, for the building is admirably fitted for that purpose, and is in a most attractive situation. The scheme would be, perhaps, the one possible means of pulling up the Crystal Palace out of its present unprosperous condition; an object which is probably not out of sight with those who recommend it. It may be questioned, however, whether 1891 is quite the time to select. The only ostensible reason proposed for it is that it is forty years since the Exhibition of 1851, for which the main portion of what is now the Crystal Palace was first erected. If it were fifty years that would be a reason for a jubilee celebration, but forty years is not a period generally recognised as an occasion for celebrations. Moreover, 1891 would unquestionably be too close on the heels of the great French Exhibition fixed for this year, which no exhibition that could be contained in the Crystal Palace could hope to rival.

RAILWAY COMPANIES would do well gradually to replace the open grates which are found in nearly every waiting-room in the kingdom for closed stoves. The difference in the general warmth of a foreign waiting-room warmed by a stove and that of an English one warmed, or attempted to be warmed, by a grate, is very noticeable. Of course, an open grate is worse in a railway waiting-room than elsewhere, because of the draughts which it helps to create. What more forlorn spectacle, again, is there than that of half-a-dozen passengers shivering in the corners of a room, seated on the benches which are fixed to the wall, whilst another half-dozen have monopolised the seats in front of the fire, thus effectually withdrawing the heat from the rest of the room—albeit, they are very likely being overdone as to one half of their bodies themselves.

AT Edinburgh the old musical bells of St. Giles's have found voice, after a silence of many years; but, alas! how thin and feeble! It was hardly worth the cost to reinstate the venerable musicians, whose performances, although they rejoiced the heart of our forefathers, are now too apt to elicit only a smile of contempt from their successors. An undertaking of great importance connected with the sanitary condition of the northern part of the city is likely to be carried out, viz., the construction of an intercepting sewer parallel with the Water of Leith. A plan has been prepared by the Burgh Engineer, which has met with approval, and it is contemplated to acquire the requisite authority for carrying it into effect. Amongst other contemplated improvements at Edinburgh, it is proposed to erect a new station for the Caledonian Railway in place of the present temporary erection. The site is a fine one for a public building, and at the time when it was acquired by the Railway Company it was proposed to erect a handsome station and hotel on it, after the manner of that at Charing Cross. Plans were prepared by Messrs. Peddie & Kinnear, but financial difficulties prevented their being carried out. The temporary station buildings are now in a dilapidated condition, and anything but creditable to the Company. The delay in providing an efficient station may probably, however, have been caused by the desire to provide something worthy of the site. Another improvement which is in contemplation is in reference to the small square to the west of St. Giles's Cathedral as a fit subject to operate upon. The buildings which form three sides of the square are not upon the same level, and there is an awkward slope from the High-street down to the Signet Library, and an equally unseemly line in front of the County Buildings. The matter has been taken up by the Town Council. A plan has been prepared by Mr. Robert Moreham, City Superintendent of Works, and a Committee formed to negotiate with the different owners.

THE Honourable Percy Wyndham's house, known as "Clouds," in Wiltshire, which was destroyed by fire on Sunday, 6th inst., scarcely comes within the category of one of "the ancestral homes of England." It was, in fact, built in 1880-5, in the modern English style, and at a cost of some 40,000*l.*, after the designs of Mr. Philip Webb, architect. A larger sum was expended upon the interior decoration, which included a great deal of wood-carving and choice furniture; so that the owner's loss,—reducible, it is stated, by insurance,—has been estimated at about 100,000*l.* The southern tower, with the stabling and offices, escaped; a fine painting, by Mr. Burne Jones, in the central hall, is quite spoiled. Clouds is situated in the parish of East Knoyle, in the south-western corner of the county, near to Chilmark, Wardour Castle, and Fonthill, and five miles north of Shaftesbury. In the old parsonage-house close by,—since rebuilt, but not, we are informed, upon the former site,—Sir Christopher Wren was born, Oct. 20, 1632. The cruciform church of St. Mary was lately restored in memory of Bishop Sumner, of Winchester. The living is in the gift of the Bishop of Oxford.

A PROPOSAL for making the Albert Palace the home of a Polytechnic Institution has been brought prominently forward by the deputation to Mr. Anstie on Monday last. The institution of such a college is entirely to be desired in itself, and perhaps it is worth consideration whether it is not advantageous to secure an existing building which must come on the market at a low price, even though the building is little adapted in itself for such an institution. It is a shelter ready provided, no doubt. We do not think that much more than that could be said for it, however; and it will probably be found, if the Albert Palace be purchased for such a purpose, that there is more space and more building to attend to and keep up than is really wanted, which is always a disadvantage and a drain upon the revenue. Moreover, places built like that, with a great deal of glass roof, are cold and comfortless for occupation, and expensive to keep in repair.

WE congratulate our excellent contemporary, the *Field*, on having at last taken the step, which we took some years ago, of providing for the convenience of readers by presenting them with a paper all cut and ready for reading. The large size of the *Field's* well-filled pages rendered this relief to the reader all the more desirable. Hitherto the reading of the *Field*, "our custom always of an afternoon" (on Sundays), was a pleasure not to be enjoyed without some serious preliminary taskwork with the paper-knife,—a business for which one had to brace oneself with firm resolve. Now the reader of the *Field* has only the trouble of turning over its pages to follow the multifarious information and entertainment to be extracted from them—to join in imagination in "a good run with Sir ——'s hounds," or in the excitement of spearing "wart hog" or stalking ibex; to study the habits and history of "Pallas's sand grouse," or the scientific problem presented by the action of a bullet on the air through which it flies; to appreciate the pleasant reminiscences of dear old "Peregrine," and "assist" in the discussion of the status of the "amateur," or of the morality of employing an engine-driven punt for wild-fowl shooting.

M. CHARLES LUCAS writes to us from Paris that at the monthly sitting of the Committee of the "Société de l'Histoire de Paris et de l'Île de France" on the 15th of this month, he presented to the Society the number of the *Builder* for January 5, containing the restored view of "Paris in the Time of Francis I." M. Lucas adds:—"Le côté, à la fois pittoresque et consciencieux, de cette restitution archéologique du Paris des Valois a vivement intéressé les archéologues parisiens, qui ont décidé d'en conserver une mention dans le Bulletin de la Société, et ordonné le dépôt du n° dans les archives."

THE inability of the *Times* to make any reference to architects or architecture without blundering is really curious. In a review of the "Life of Street," published in the *Times* of the 11th inst., Street is referred to as having been "joint architect with Mr. Barry" of the Law Courts! Of course, the very point of the whole matter is that Barry was *not* joint architect; that there was an endeavour to make him so, and that Street contrived to frustrate it; and a considerable space in the biography is devoted to explaining away this action on the part of Street, or putting the best face on it. The writer of the review not only cannot have read the book he was reviewing, but must have been more than usually ignorant of contemporary architectural events not to have known that Street was sole architect of the building, which we never heard connected, in common conversation, with any other name than his. Other daily papers are, of course, little better as a rule; but it is certainly extraordinary that the *Times*, with all its wealth and its unique position, cannot take the trouble to see that a special and important subject like architecture should be treated of by writers who have some little knowledge of it. In regard to some subjects, public opinion would make it necessary to attend to this; but the fact is that the public in this country are so ignorant and indifferent about architecture that any dunce may write about it in a daily paper, for neither the editor of the paper nor its readers will ever know or care whether he is right or wrong.

KETTON AND TICKENCOTE CHURCHES.

THE name of Ketton is, of course, familiar on account of the fine building stone which is obtained in the locality, but the church is not so well known as it deserves to be. It is charmingly situated in the midst of a quaint little village, nestling down in the hollow, almost hidden amongst the great elms which grow even in the church-yard itself; close by the stream is spanned by an old Gothic bridge of many arches and wide-spreading piers; the houses with their old-world aspect, their long, low, mullioned windows and stone-covered roofs all make up a picture delightful to the architectural student, who, sketch-book in hand, rambles through this, the smallest of English counties, finding treasures of which he knew little or nothing before. Ketton is easy of access, being about three miles from Stamford by rail; on the way is passed an interesting house called "The Nuns," which has been built upon the site of a former nunnery. During the excavations for the foundations many objects of architectural interest were found; these have been carefully preserved by the owner, and many also of the old mullioned windows of an older house have been retained in the new building.

The plan of Ketton Church is cruciform, with the tower and spire rising out of the intersection of the arms of the cross. It consists of a nave of three bays of wide span, and of singularly light and graceful design, dating with its north and south aisles from the thirteenth century; a south porch, north and south transepts, and a long choir, which is on a somewhat higher level than the body of the church. The treatment of the central tower as viewed from the interior is good, as shown by the sketch, which is taken from the south side of the choir looking west; the proportions of the piers and the simple mouldings to the arches are very pleasing, and the whole effect most happy. But the chief beauty of the building is in the belfry style of the tower, together with the elegant broach spire which surmounts it.

The belfry lights are six in number on each face of the tower. These lights are coupled together under moulded arches enriched with the dog-tooth, the jambs being deeply recessed in three orders with detached shafts, their capitals being carved with the stiff-leaf foliage of the Lincoln type; the dog-tooth ornament being also worked in the hollows between the

Sketches from Ketton Church.

shafts. This produces a very rich effect, which is heightened by the moulded cornice at the springing of the spire; this is peculiar to the district, and is to be met with in the steeple of St. Mary's, Stamford; it consists of a large bead worked in the form of a series of segments of circles, boldly projecting and deeply undercut, producing a strongly-marked and varied line of shadow, which successfully marks the termination of the tower and the commencement of the spire. The angles of the octagon spire are worked with rolls, ending at the base with grotesque carvings, and the broaches are surmounted by small niches, each containing a sculptured figure of rude workmanship, but effective when viewed from below. There are three tiers of lights in alternate faces of the spire, and the total height from the ground to the vane is 150 ft.

The western doorway to the nave is an interesting example of Transitional Norman to Early English work; it bears a strong family resemblance to the west entrance to St. Leonard's Priory, Stamford, and with the round arch, square abacus, and zig-zag and other Norman ornaments, unites the detached shafts and hollow mouldings of the thirteenth-century work.

There is some good fifteenth-century carving in a few of the bench-ends in the choir, and the arrangement also of the stalls is old, though the benches themselves are mostly modern.

Some three or four miles from Ketton there is the curious church in the village of Tickencote; an illustration of the chancel arch is given, which forms the chief interest of the building. The church itself appears to be all or nearly all modern, and the rector states that some years ago it was almost entirely rebuilt; every endeavour was made to copy the detail of the old building, but as it was done in the early years of the Gothic revival, and under the superintendence of only a *dilettante* student of architecture, it is hardly surprising that the attempt has not been altogether successful; fortunately the arch remains untouched. It is supposed that the present nave is a later addition, and that the original church consisted only of the chancel as now existing, in which case the arch would have formed the western entrance; an examination of the structure confirms this theory, for the masonry of the two portions differs. The shape of the arch is curious, and its flat form is hardly to be accounted for by the supposition that the piers have spread and the arch settled; it is more probable that the arch has been rebuilt at some time, and through ignorance or blundering its present form has resulted. The building is reached by a short drive from Stamford, and is well worthy a visit, every explanation and every facility for inspection being afforded by the rector.

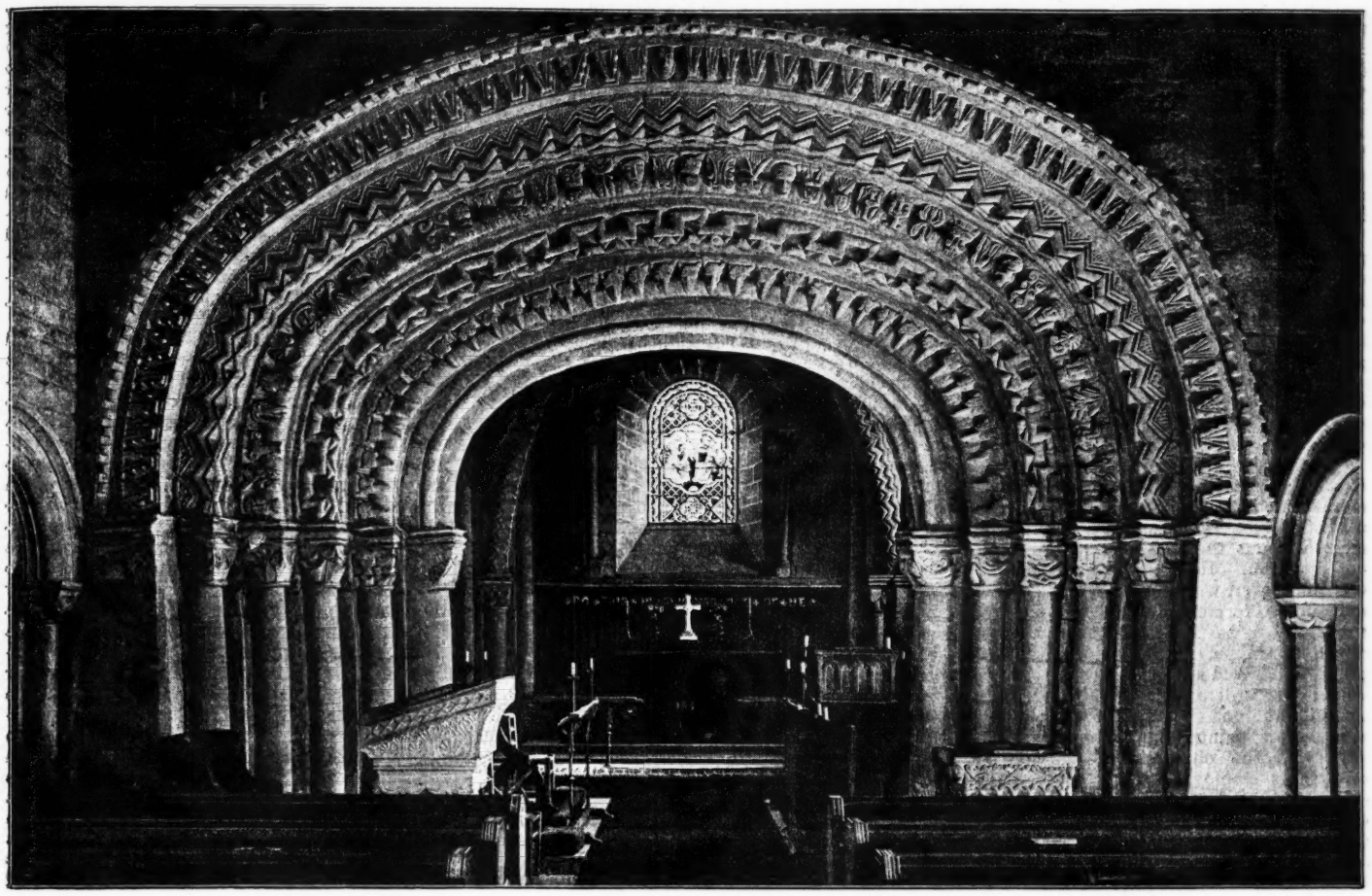
COMPETITIONS.

Chelsea Club, Fulham-road.—Designs were recently invited for the erection of a new entrance to the Chelsea Club, Fulham-road, S.W. It was unanimously decided at a meeting of the Board, held on Monday evening, to adopt those under motto "Victor," the author being Mr. Horace T. Bonner, of King-street, Cheapside, to whom the premium was awarded.

New General Post-Office, Lisbon. — The Portuguese Ministry of Works invites plans for new General Post and Telegraph Offices at Lisbon. The competition is open to architects of all nationalities, and designs must be sent in by October 28, 1889. Two premiums, one of 3,000,000 reis (666*l.*), the other of 2,000,000 reis (444*l.*), will be respectively awarded by a special jury to the plans classed as first and second. These plans will become the property of the Portuguese Government The building is to be 160 mètres in length and 100 mètres in depth, occupying a rectangular space of 16,000 square mètres, seventy-six divisions or compartments being specified. The plans are to be on a scale of 1:100, and must be accompanied by detailed statements and estimates, as well as by a general descriptive memorandum of the proposed building.

Engineering at a Sanatorium.—Want of space compels us at the last moment to hold over the article announced under this heading.

Nineteenth Century Art Society.—Wednesday, the 23rd inst., has been appointed for the reception of works of art intended for the Spring Exhibition (the seventeenth) of this Society, at the Conduit-street Galleries.



Chancel Arch, Tickencote Church, Rutlandshire.

OBSTACLES OPPOSED TO THE ADVANCEMENT OF ARCHITECTURE BY ARCHITECTS THEMSELVES.*

THE objects for which this Congress is met are the advancement of art generally,—and in our own section in particular the advancement of architecture,—and its application to industry. In other words, our object is to popnlarise art; to bring people generally to value and desire it; to accustom them to look for something beyond mere utility in the productions of industry of all kinds, especially in our own case in the matter of the construction of buildings, and to teach them to demand that these things shall not only be useful and convenient, but also well and beautifully designed.

We are, therefore, principally called upon to consider Art in its decorative aspect—that is to say, our business is not so much with the production of beautiful things as with the art of making things beautiful. Not so much, for instance, with the production of pictures to frame and hang on the walls, or of statues to set on pedestals or shelves in the gallery, as with the application of beautiful form and colour, by means of architecture, painting, and sculpture, to objects of daily use and convenience.

Of such objects our houses and other buildings are obviously the most important, and architecture is, therefore, the most important of the decorative arts; indeed, architecture differs from the other arts in this—that it is not, and cannot well be, anything but a decorative art. For architecture follows building. There must, first, be the building which architecture is to put into an artistic shape. Considerations of plan, construction, and materials come first, and it is the business of architecture to observe what forms are suggested by convenience of plan, necessities of construction, and nature of materials, and then by modifying the forms so suggested into harmonious proportions, drilling them into well-balanced compositions, ordering them into effective arrangement, and adorning each part suitably to its purpose or importance, to convert a mere object of utility into a work of art.

Of all kinds of art, therefore, Decorative Art is that which matters most to society, because we are all of us, all day long, handling, using, and looking at objects which may either be beautiful and give us pleasure, or ugly and give us pain. And of all the decorative arts, architecture is the one which is of most consequence to the world at large, for it works on the grandest scale, and deals with things which we cannot avoid seeing. There is nothing to oblige us to look at bad pictures or bad statues, but we cannot escape the bad buildings that disgrace our streets, or avoid being annoyed by them whenever we go out of doors, unless, worse still, we grow used to them and cease to mind them, which can only come to pass by a corruption of taste.

Considering, then, that none of the arts is so near or so necessary to us, or capable of so frequently and constantly either pleasing or vexing us, it is a matter of astonishment to see the tolerance of bad architecture and the indifference to good which prevails; and this not only among those who care nothing for art, but even among those who are to some extent capable of appreciating excellence in the other arts when they meet with it. More wonderful still to relate, I have known painters eminent in their own art to house themselves in buildings of the most atrocious architecture, much apparently to their own satisfaction. Such instances are enough to drive one to despair, for if the artist fails to see the difference between good and bad work, what hope is there that others will see it?

What then is to be done to bring about a better state of things? How is the public taste to be trained to a better judgment in matters of architecture? How are we to teach the world to know good architectural design from bad?

I believe the methods of raising the standard of critical taste in our own art to be the same as in all the others. It is not to be done by lectures on the æsthetics of art; by attempts to spin moral lessons out of marble, stone, or wood, of which the craftsmen never dreamed, and which they were never intended to teach; it is not to be done by art congresses, such as this in which we are now taking part, if our meetings end in nothing but talk; least of all is it to be brought about by the fashionable art criticism of which we hear nowadays far more than enough, and which, while it is of no use whatever to the artist, serves only to supply the amateur with the means of showing off a little cheap knowledge of matters which he will not take the trouble to study for himself. In architecture, as in the sister arts, it is not the critic, but the artist, who is the real instructor and the real agent in forming the public taste. This is merely saying, in other words, that it is not by talking, but by doing,—not by the ear, but by the eye,—that men are taught to know what is right in form and colour and beautiful in conception. One visit to a gallery will do more to teach the difference between good and bad painting than a whole course of lectures or a whole volume of art criticism. In many cases art criticism is, indeed, directly baneful in its effects, for it stupifies that natural sense which, when left alone, will, in many cases, lead to right conclusions. Every one must have met with instances of sound critical taste in quite uneducated persons; and I believe most people, if a good and bad design were placed side by side before them, would make a right choice if they could but dismiss all they had heard or read, and simply decide according to their own unbiassed inclination.

It is, then, to architects that the public have a right to look for the formation of a correct public taste in architecture, and not to any system of criticism however learned or philosophic. And it is by our works in brick and stone, wood and iron, that we craftsmen in architecture are to make our influence felt, and not by lectures or written papers,—such, for instance, as that to which you are now good enough to listen,—nor even by exhibitions of architectural designs on paper. Exhibitions of architectural drawings will never be popular; no one but architects, as a rule, goes near them; the room where they hang at the Academy is generally deserted; useful and necessary to the expert, they are uninteresting to the layman, and, therefore, can never have much influence on the public taste. Moreover, it must be remembered, that to architects and sculptors, drawing is not an end in itself as it is to the painter, but only a means to an end,—to the building or the statue,—and it is to the building or the statue we would have you look, and not to the drawing which was only instrumental in producing it.

If, then, the public taste will be good or bad according to the quality of the art set before it, healthy or unhealthy according to the food it feeds upon, which is a simple and reasonable theory enough, and if, consequently, the for-

* Paper read by Mr. T. G. Jackson, M.A., F.S.A., architect, on Wednesday, December 5, 1888, at Liverpool, to the first Congress of the National Association for the Advancement of Art and its Application to Industry.

mation of a correct taste in architecture among their contemporaries depends on architects themselves, surely the first task of such a congress as this should be to inquire whether we architects are going to work in the right way to produce the best art of which we are capable. So far from this being the case, I believe the greater number of our architects are working under hopeless conditions, which must prevent not only any originality but even tolerably good work.

In what does the work of an architect properly consist? There certainly never was a time when the need of his directing hand was greater, and when his proper share of the work was larger; never was there a time when he had greater opportunity of impressing his personality on his work. What share the architects of old had in carrying out their buildings is not always easily ascertained. In the days of the Classic Renaissance probably very much was left to the trained workmen they employed. It is impossible, for instance, that Sir Christopher Wren can have done much more than give the general ideas for a great part of the enormous number of buildings all erected about the same time which are attributed to him. He knew his workmen, and he was, moreover, working in a style which was reducible to formulæ unknown to the styles of the middle ages. The joiners and masons of that day were trained in the knowledge of Classic proportions, and they had books to consult, in which the orders and the several parts were drawn out and profiled with their proper modules and minutes, and there was but little variety in the character of the conventional ornaments employed. To a great extent, no doubt, these workmen were capable of working out correctly a door or a window-case, or even an entire order from the general sketches of the architect, and they were no doubt often trusted to do so. In the Middle Ages things were somewhat different; then, too, there were schools of skilled artisans, freemasons, and others, possessing knowledge of details, and capable of working out the parts of the general design by themselves; but the style was not bound by the monotony and regularity of Classic architecture; an infinite variety of form, plan, and ornament was at the builder's command; and without some one at the head, not only to give the general idea of the work, but also to design and order the details, it would have been impossible to have carried out the great buildings of Gothic architecture. Everything about them points to a single master-craftsman or architect, whose personality impressed itself on every part of his building, and gave it its distinctive character. The building contracts that have come down to the present day reveal him to us as acting in just such a capacity as I have supposed. We see him there not only designing his building on paper, and going now and then to look after the workmen as we do, but attaching himself to a particular building, and working upon it during the greater part of its growth. He was, in fact, the master-craftsman,—the true architect,—the master-mason and sculptor,—*Lapicida*, as the old deeds call him. Let me read a few extracts from a contract dated A.D. 1441, between a Bishop and his building committee and the "Careful man, Master George, the Lapicida," or stone-cutter, for the erection of their cathedral. The said Master George binds himself to come and live in the town during the next six years, during which he will work and cause to be worked by other workmen all and every the works, buildings, and ornaments of the said church, and will work with his own hand, both on the fabric and in the sculpture, in a manner creditable to any good sculptor and master of the stone-cutting art. Also he promises to go to the quarries and see to the proper supply of stone; also not to undertake any other work without the consent of the Committee; and generally he promises to direct as chief master the whole of the work, and all the masters, artisans, and labourers, giving them plans, measurements, and instructions, and correcting all defects.

Besides this contract, which relates to the building of the Cathedral of Sebenico in Dalmatia, I have lately seen other contracts of the same Master George, which define with equal or greater precision the work of an architect in the fifteenth century. His designs were made on paper or modelled in clay, and these were deposited with the notary and made part of the contract. In every case it is especially stated that his work includes the sculpture and ornament. In his agreement with the Republic of Ancona for the Loggia dei Mercanti in that city, of which he built the façade in the year 1451, it is specified that "the said Master George promises to make in the said façade, as he has drawn it, all the sculptured idols of the full stature of a man, together with the great and fine horse, and the arms of the Comune relieved and sculptured in places drawn on the said paper drawing." Such is the general style and tenor of the agreements with Mediæval architects in all countries of Europe; several of them in very similar terms are published in Mr. Street's book on Spain; and it is not uncommon to find the architect acting also as contractor, and undertaking to carry out the work for a certain sum.

From all this it appears that however skilled the workmen of the Middle Ages may have been, they worked under the direction of an architect who was always on the spot to tell them what to do and how to do it; who not only designed, but actually set out the work, combining in himself the duties of architect and clerk of works; and who, moreover, wrought with his own hand at the sculpture with which the building was adorned.

But if this supervision of the architect over every part of his building was necessary then, when he had under him a skilled body of artisans trained to the methods and traditions of a single school, how much more necessary must it be at the present day, when he has no such means at his command. Our artisans have no traditions, no method, and belong to no school. They may be set to work one week in one style, the next week in another, and the following week in something that does not deserve to be called a style at all. They may have to pass from a piece of Gothic tracery to a Corinthian entablature, and thence perhaps to a Victorian shop-front. They display a marvellous power of adapting themselves to new kinds of design, and I have often wondered at the ability they show in understanding directions and following patterns that are given them, however unlike anything they have been used to; but they are utterly and hopelessly at sea when left to themselves. Let any one who has theories about the liberty of the workman, and is in danger of pushing them farther than they should go, try the result of leaving the details of his architecture to the mason or the joiner, and he will soon find out the truth of what I have said. At no time in the history of art has it been more necessary that the architect should take into his own hands the whole design of his building and of every detail belonging to it. It is true we cannot go back to the old days when the architect was the *lapicida*, and wrought with his own hands on the fabric and its decoration, although the idea is not without its fascinations, although, so far as concerns the sculpture, it is surely the architect's business to design it and to correct the models in the clay, even if he does not model himself, or actually handle the chisel. Nor would it be at all desirable that the architect should ever again act as contractor as well as in the capacity of designer and superintendent. Nor need we in these days of posts and railways confine ourselves to one work at a time and go to live on the spot; but, it is indispensable that we should approach, as nearly as altered times and circumstances allow, to the old state of things when the architect saw to everything with his own eyes. The architect of to-day must think no part of his work too small for his attention, and he must not be content unless he feels that every detail of his building comes from his own hand. His construction will, of course, give the motive of the design; it will be carefully considered and every structural problem will be met and solved before the building is begun; and the architectural design will keep pace step by step with the construction, partly suggested by it and growing out of it, partly in its turn modifying it and making it obedient to artistic considerations. Without this intimate alliance of the two elements,—without this action and re-action on one another of the constructive idea and the artistic idea,—no good architectural design can ever be produced.

Two things distinguish the real architect from the mere pretender, his knowledge of construction and his knowledge of detail. The first enables him to give a reasonable character and a meaning to his design, the second enables him to carry it out successfully. Other people may be able to conceive grand architectural ideas as well as himself, but he alone can bring these ideas to the test of construction and find out whether they are practicable; and, above all things he alone can make them worth anything by working them out with proper details. Good details, designed with feeling, neither too fine nor too mean for the occasion, and of proper proportion in scale and quantity, will give artistic value to a very unpretending building, and save a very modest design from being commonplace; while on the other hand, no matter how good a design may be, bad or unsuitable details will suffice to ruin it. The best amateur performances fail simply on this ground, the general conception being perhaps good, but the knowledge that is needed when it becomes necessary to descend to particulars being, of course, wanting.

The architect, therefore, who loves his art will leave no details untouched, knowing that through them lies the road to perfection. Everything will be thought out and studied, and the smallest matter will be designed as carefully as the more important. All those who are interested in modern architecture will be able to recollect some building they have seen which has been produced under these conditions, where the thought of the architect can be read, and his hand traced not only in the general design, but in the minutest feature. If it be a domestic building, in the mouldings of the panelling, or the locks and finger-plates of the doors, no less than in the halls and staircases. Or if it be a church, in the furniture and fittings, the sculpture, the pavements, the decoration in mosaic or glass, not less than in the mouldings of the arches, the traceries of the windows, or the outline of the spire. Such buildings as these are interesting because they have character, and this they owe to the impress of the architect's personality on his work. It is this that gives it its charm. Art is valuable only so long as the artist can be seen in it. It is a quality that may be shown in the plainest and humblest building, without any positive ornament, as well as with it, and it often makes the cottage a finer work of art than the palace. It is only buildings raised under these conditions that can really interest or charm us, and none others really deserve the name of architecture.

To some ears this may, perhaps, sound a truism, and many persons who do not know how modern architectural works are produced will, perhaps, wonder that I should insist so strongly on it. But my point is this:—that it is only from architects themselves that any improvement in modern architecture can come, and that if our art, as a whole, is at present in anything but a satisfactory condition, the fault must not be laid at the door of society at large, but at that of the architects who turn out poor work, or bad work, principally because they do not practise it in the whole-hearted way of the craftsmen of old. Society is ready enough to appreciate good work when it gets it, and no architect who does his best need, so far as I have observed, complain of want of due recognition. Before we architects accuse the public of being indifferent, we shall do well to look at home, and see whether the work we turn out has any real claim to be interesting, and before we complain that they do not know good work from bad, it is our business to ask ourselves whether we have given them a fair chance of seeing what good work is. And, let me repeat it even at the risk of being tedious, art is only good and interesting so long as it bears the personality of the craftsman stamped upon it. Those modern buildings, therefore, only have a claim upon public recognition which are produced in the way I have indicated, and bear this stamp upon them; and on the whole, I think it will be observed that the public have not failed to find them out and appreciate them. Common experience will tell you that it is so. There are certain living architects whose work we all look at with interest; theirs are the designs which we search out in the exhibitions, and theirs are the buildings which we go to see, and from which we come away wiser than we went. The names of many such men will readily occur to you; there is no need for my mentioning them. They belong to various schools, and work in very different ways; their work is not always on an important scale, of expensive materials, or magnificent construction, for some of the very best modern work is to be found in humble and unpretending buildings; but, however they may differ in other respects, they have one thing in common, and that is that their work is all their own, for they are all men of whom we know that they leave nothing unconsidered, and that everything, even the minutest detail, is as much theirs as

the general design. In every detail we see signs of thought, we recognise the master's hand, and read the craftsman in his work. Consequently the building has character and individuality; in short, it interests us, and, moreover, it has that harmony and consistency in all its parts that naturally result from the fact of its being the product of a single mind.

It is hardly necessary to say that this is not the case with nine-tenths among the number of modern buildings. Never in the history of this country has there been anything like the amount of building that has gone on during the last fifty years, and never have so many buildings of a costly character and magnificent materials been erected. Never has our craft had such splendid opportunities of distinguishing itself, and never, one might have thought, would our art have been more likely to take a fresh departure and enter on a new life. Compare the palaces in which trade is now carried on with the coffee-houses and shops where the bankers and merchants of our grandfathers' time were contented to make their money and see their customers; or the clubs that line Pall Mall and St. James's with the Mitre or the Thatched-house of the beginning of the century; or the amount of building of new or rebuilding and enlargement of ancient mansions that has taken place to meet the demands of modern fashion and luxury, which despises the homely comforts of the last generation; or reckon up the vast sums that have been expended in building new and costly churches, or in what is popularly known as restoring old ones, and it will be felt that if modern architecture has missed the flood that ought to have got her afloat, she cannot complain of any want of opportunity. And yet the melancholy fact remains that at no period in the world's history has so much architecture been produced that is either positively bad or else absolutely uninteresting. In the City of London there are whole streets of new banks and warehouses, built within the last few years, of costly materials and magnificent proportions, to many of which it is best to shut one's eyes altogether, while of the rest there is seldom one that is worth a moment's pause for observation. Those that are offensively bad are so from ignorance or contempt for the recognised rules of art; those that are merely dull and stupid result from the mere mechanical repetition of stock forms and stale ideas, which does duty for thought and saves the trouble of invention.

In these cases it is difficult to see who can be blamed but the architect for not making more of his opportunity. He seems to have had everything in his favour,—a palatial structure to erect, and *carte blanche* at his command. And, in the rare cases where buildings of this kind are entrusted to men who are artists, one sees readily enough what can be done with them. There is, perhaps, no class of building for which it is easier to produce an effective design, if the architect will but do his best and put his whole soul into it. But this is not the way in which it is generally done. It is no secret that the majority of architects now work in a very different way from this. The conditions of success, which I have lately stated, are inconsistent with the calls that are made upon their time by other matters. Comparatively few of their working hours are given to architecture; the rest are spent in employments that have nothing to do with it. Many of them fill the office of surveyor to corporations or public companies, and the best part of their time is spent in the survey of land, the valuation of ground-rents and of houses for lease, or for sale or purchase. Others occupy themselves in taking out the quantities for estimates of their own or other men's buildings, or else they sit on arbitrations, or devote themselves to building schemes, land companies, and to negotiating the sale or lease of buildings and building sites. These and similar occupations engross the greater part of their time, and must, from their nature, take precedence of anything else, and, consequently, only the leavings of their time can be given to architecture.

What can come of such a system but failure? Reflect for a moment on what has been said of the claims which architecture makes on the attention of the artist, how she demands his careful study of every detail, and the impression of his hand on every part, and then consider what kind of work is likely to be turned out in the odd half-hours of a life busily engaged in other pursuits. The result, of course, is that the buildings raised under these conditions, if not actually bad, are at best of that dull, characterless kind which has little of the architect himself in it. How little it has in many cases the outside world has no notion, nor, I must confess, had I myself till lately. Overwhelmed with other work of a non-architectural kind, the nominal architect has no resource but to delegate his architecture to a subordinate. Ghosts haunt our art even more than that of the sculptor, as I will show you by a few instances. The first that occurs is that of a building on which one of the wealthiest of the City companies spent 30,000*l*. The work was one that offered architectural opportunities of the most delightful kind, enough to have inspired any architect who had a soul to do his best. But it was its fate to be entrusted, as always seems to be the rule in such a case, to the Surveyor of the Company, and he, full of his surveying work, after sketching the general plans to a small scale, handed them over to a subordinate surveyor, who made such further working drawings as were needed by the builder. I am told these working drawings were never seen at all by the nominal architect. Now, the ghost in this and similar cases may be a capable ghost, in which case it is clear that he would do much better work without a principal over his head; or, as is more common, he may be a mere mechanical draughtsman, incapable of adding anything from himself to the bare suggestions which are supplied to him. In either case a divided authorship such as this must prevent either of the persons concerned from working with any proper interest and spirit.

Take another and a still worse case. Two old churches were doomed to undergo restoration. The architect who was turned loose on them was absolutely incapable of making architectural designs, and he therefore employed a ghost,—in this case a draughtsman who had retired from the office of another architect. The whole of the working drawings, such as there were, were made by this gentleman, and the only thing really designed by the principal architect was the pulpit, which has since, I hear, been turned out of the church. If this is a fair example of the way in which many of the disastrous church restorations over which one has so often to mourn have been carried out, one cannot wonder at the havoc that has been wrought.

But many architects dispense even with such spiritual assistance as this. They invoke no ghosts to help them, but simply give general sketches, and leave the builder to get through the work as well as he can. If the builder applies to him for any particular instructions about the details of the work, the only answer he gets is, "Take it and do it, and don't bother me about it." In a building that cost 6,000*l*., the only working drawings furnished to the contractor were those of a cellar-door and a coal-shoot, and every other detailed drawing was made by the contractor himself, who did not even go through the form of showing them to the architect. In this case, too, the paymaster was a City Company, and the nominal architect was their Surveyor. I may add that the contractor's belief is that even the general plans were not the architect's own, but that he got someone to do them for him.

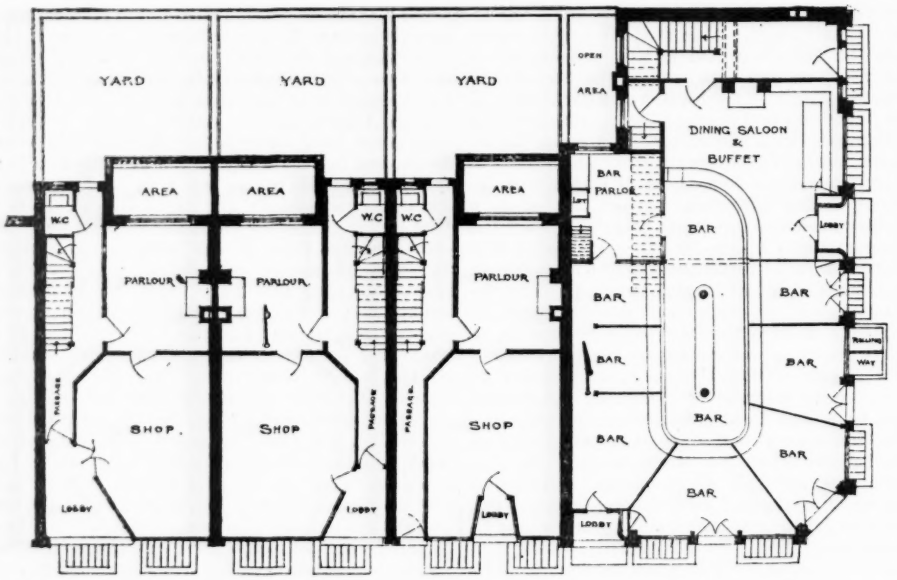
Another builder tells me that he himself made all the detail drawings for a house that cost 15,000*l*., merely sending them up for the architect to look at, and getting them back with little or no correction. The same was the case with another architect, when the contract was for a house that cost 30,000*l*. With this architect, I am told, this is invariably the way in which his work is done. One contractor, who knows what good work is, and has worked under architects of the right kind, tells me that from the majority of architects he gets no working drawings, never any full-size details, and, at the most, drawings to the scale of ½ in. to the foot, and very few of them. I may, perhaps, be forgiven if I add that he finds country architects the worst in this respect, because no one is more ready than I to acknowledge that there are many country architects who work as artists should, and whose work any of us might be proud to rival.

These instances may serve to show how the greater part of our modern architecture is produced, and from them it may be gathered with whom the fault lies that the general standard is not higher; whether, in short, it is fair to blame an unappreciative public or those architects who are so little worthy of the public confidence. There never was a time when more depended on the architect, and yet there never was a time when architects produced so much careless and ignorant work. Things will never be better till it is recognised that Architecture and Surveying are two different pursuits, and that no man can succeed in both. How architecture suffers, I hope I have already shown clearly enough. Life is not long enough for the study of that alone, and has certainly no margin for another profession. It is not even as if they were kindred associations, for it is difficult to see that architecture has anything more to do with land-jobbing than it has with horse-coping. It is an ill-omened association that has produced nothing but harm, and an architect cannot but remember with resentment that, but for this, the name of the noblest of the arts would not have been dragged through the mud of the recent scandals of the Metropolitan Board. By their separation into two distinct pursuits both would gain, for if architecture suffers by the time subtracted for surveying work, it follows that the latter must suffer by the time taken up by architecture. Both are now ill-done. That it is so, in fact, is shown plainly enough by the complaints of the unfortunate builders who have to make estimates on quantities prepared by architects. What the builders think about them may be seen by what was said last week in a paper read by Mr. Ashby to the Institute of Builders. A contractor told me the other day that after beginning a work, for which the architect had supplied the quantities, he discovered that all the internal brickwork had been forgotten; and another contractor told me that he had long regarded tendering on architects' quantities as mere speculation.

The reform that it is my object to support to-day is, therefore, nothing more than what is conveyed in the old adage that the cobbler should stick to his last. I want nothing more than this, that architects should stick to their own craft, because they will find in it more than enough to occupy all their time and all their energies, and because, unless they devote themselves to it entirely, they need never hope to do good work. This seems so obvious that one might think it was only necessary to state it in order to command assent; and yet among all the remedies and plans for improving architecture, it seems the very last that the majority of architects can be induced to accept. Candour must compel them to admit the truth of it if they could but be brought to face the question boldly, but they invariably shirk it, and hunt about for all kinds of far-fetched remedies and fanciful nostrums, while all the time the cure is actually in their own hands. Heroic treatment is now the fashion, and the latest and wildest idea is to call in the aid of the Legislature, and make architecture a close profession, like law and physic. Those who promote this scheme strangely mistake the conditions under which a fine art can exist and flourish; or more likely they are content to drop the fine art, and sink architecture into a respectable profession. The whole proposal is a mischievous chimæra; architects cannot be made by Act of Parliament, nor can art be galvanised into life by a schedule. There is nothing but harm to be got from legislative interference, and the worst enemies of the progress of architecture are those who are now struggling to hash up architects, surveyors, and engineers into one mess, and make of them a single close profession, thus perpetuating the very mischief I have been complaining of. No system of examination and diploma can be framed to exclude bad architects. The men whose way of work I have condemned, together with their ghosts and all their following, would all of them pass the test with *éclat*, and take their place among the registered elect. The remedy does not lie in this direction. It lies with ourselves; it consists in the endeavour of each architect to make himself a true master craftsman, perfect in every department of his art; at home in every branch of constructive skill; expert in every branch of decorative appliance; with an eye trained to comprehend breadth and mass, and yet able to stoop to the care of the most delicate detail. It is thus that the great styles of the past were brought to the perfection which makes them worthy to be our models, and it is only thus that we can ever make our art worthy to succeed them.

Let us, therefore, put our own shoulders to the wheel, and cease crying on the Hercules of the Legislature to come and pull us out of the mire.

The Leamington Town Council has decided to discontinue street electric lighting.



The "Goat-in-Boots" Public-house, and adjoining Shops, Fulham-road, S.W.—Ground Plan.

Illustrations.

THE EQUESTRIAN STATUE OF ÉTIENNE MARCEL.

IN 1882 the Municipal Council of Paris decided to erect a statue to Étienne Marcel in the garden which runs along the side of the Hôtel de Ville, facing the Quai.

A competition, in which seventy-four artists took part, was held the following year, and resulted in the selection of the design by M. Idrac, the son-in-law of the late eminent architect Ballu. M. Fremiet obtained the second prize, and M. Marqueste the third. Unhappily M. Idrac died shortly afterwards, when in the first promise of his artistic career, and M. Marqueste was chosen by his executors to complete his work, the casting of which was entrusted to the well-known firm of MM. Thiebaut frères.

The casting, *in one piece*, of this statue, which is four mètres and a-half in height, gave rise to a warm dispute between the founders and M. Marqueste, who complained of the manner in which the work was done. The Municipal Council took up the question, and eventually MM. Thiebaut offered to execute the work again at their own cost, rather than allow the dispute to run on. This was accordingly done, and the statue was officially inaugurated in July last, on the day of the National Festival.

Messrs. Thiebaut, however, have reserved the right to exhibit this year, in the Champ de Mars, their first casting, in order that the public and the artists may judge for themselves how far the criticisms directed against their work were justified.

The statue now erected stands on a rectangular pedestal, a little too elevated, to our judgment, for the best effect. The principal face of the pedestal bears the following inscription:—

La Ville de Paris,
À ÉTIENNE MARCEL,
Prévôt des Marchands,
Mort en 1358.

The pedestal was designed by Ballu, and has been carried out so far under the direction of his son, M. Albert Ballu. It is not complete, however, as the original design included some bas-reliefs, the execution of which has been postponed from motives of economy.

"LA PAIX ARMÉE."

THIS statue was commissioned by the Municipality of Paris, in 1887, from M. Coutan, as the result of a competition in which two other sculptors, MM. Allar and Roulleau, were invited to take part. The figure, which stands four mètres high, has been cast in a specially-prepared material, called "bronze Keller," at the foundry of MM. Thiebaut frères. It stands on a granite column about ten mètres in height, erected under the direction of M. Paul Sédille, in the centre of the square d'Anvers.

The statue was unveiled on Sunday, the 4th of November last.

"RUSHOLME," CROCKHAM HILL, KENT.

THIS view shows some slight additions to a house built a few years ago on a very picturesque site about midway on the main road from Westerham to Edenbridge, commanding views of charming Kentish landscape.

The ground-story walls will be built in rubble-coursed local stone; the upper part will be hung with red tiles in ornamental bands.

The roofs are also tiled and boarded.

The external timber-framing will be of English oak with rough cast panels.

The work is being carried out by Mr. Deadman, builder, of Crockham Hill. Mr. Arthur Ardron is the architect.

THE CHURCH OF ST. WDDYN, LLANWDDYN, N. WALES.

THIS church, recently erected by the Liverpool Water Committee, occupies a commanding position on high land to the right of the great embankment of the new Vyrnwy Lake as seen from the Llanfyllin-road. The church is finished externally with local stone walls, with dressings of Cefn stone to windows, buttresses, and belfry.

The style adopted is Early Pointed, with the exception of the south door, which is semi-Norman, protected by a massive oak porch with an inscription on the internal beams to the following effect: "This church of St. Wddyn was erected A.D. 1887; the old Church of St. John being covered by Lake Vyrnwy."

The interior arches, &c., are of Bath stone, which contrasts well with the red Ruabon bricks with which the whole of the interior walls are faced.

The roofs of the nave, aisle, and transepts are open to the ridges, with massive arched principals, collars, and ties, and moulded wall-plates. The choir and chancel have panelled ceilings, coved at sides, and with bold wood ribs and plates. All the woodwork of roofs is stained a dark oak colour and varnished.

There are handsome dark oak screens to the transept arches, that on the north side enclosing vestry. The pulpit, choir-stalls, and reading-desk are all of dark oak, and the fronts of the choir-stalls are formed from old oak panelling taken from the gallery-front of the old Church of St. John, which is now demolished, with its surrounding village, to make room for the new Lake Vyrnwy.

The font and east gable cross from the old church are also used in the new building.

The seating is of varnished pitch pine; the floors of nave and aisle and transept are of solid wood-blocks, and that of choir and chancel of deep red and black tiles arranged in simple patterns. The windows are glazed in "cathedral-tinted" glass, with coloured margins.

The church is heated from a chamber below the vestry by means of a hot-air apparatus supplied by Messrs. Cooper, of Liverpool, ample provision being made for the admission of fresh air.

Seats are provided for 184 persons, including a choir of nineteen, and more accommodation can be provided, if necessary, by extra seats or chairs.

The contractors for the whole of the works were Messrs. Hughes & Owen, of Wrexham, who have completed their contract in a creditable manner.

The oak-work was supplied by Messrs. Norbury & Paterson, of Liverpool, the tiled floors by Mr. Swift, and the plumbers' work of church and vicarage by Messrs. Haskayne & Kirsop, also of Liverpool.

The architect is Mr. Francis U. Holme, F.R.I.B.A., of the firm of Messrs. F. & G. Holme, Liverpool, and Mr. John Saddler, of Widnes, acted as clerk of the works.

THE "GOAT IN BOOTS" PUBLIC-HOUSE AND THREE HOUSES AND SHOPS.

THIS tavern was rebuilt a short time since, on part of the site of the old tavern, at the corner of Fulham-road and Park-walk, Chelsea (the three shops and houses covering the remainder of the old site), and comprises public and saloon bars on the ground floor, as shown on accompanying plan; billiard-room, with lavatory, &c.; two sitting-rooms and a bed-room on first floor; and bed-rooms and bath-room, &c., on the second and third floors.

The whole of the fittings in the bar are in mahogany, with walnut panel mouldings, and were supplied by Mr. Taylor, of Camberwell; all the upper panels of partitions and doors being filled with painted glass by Messrs. Campbell, Smith, & Co. The fronts are carried out in yellow bricks, with red brick and stone dressings; the pilasters on the ground floor being of red granite, with grey granite bases.

The old painted sign (which has a history) has been rehung on a wrought-iron bracket, and has also been copied in the carved stone panel, this, with the rest of the carving having been executed by Mr. Gilbert Seale. The works were carried out by Messrs. Turtle and Appleton, from the designs and under the superintendence of Mr. T. H. Smith, architect.

THE MANSIONS, SLOANE-GARDENS, LONDON, S.W.

THIS block of buildings, of which we give a view and plans in our issue to-day, is situated by the side of Sloane-square Station, at the corner of the two new roads formed since the recent extensive clearance of old property on Lord Cadogan's estate. So great a change has been made here that no one who last visited the district four or five years ago would know it. Narrow streets of squalid houses have given place to wide avenues of mansions. The main frontage of The Mansions is to Sloane-gardens, which is 80 ft. wide. In the side road are three shops, with housekeeper's residence. The building consists of basement and six other floors. Each upper floor forms a complete residence, consisting of large hall, two reception-rooms fitted with balconies, five bed and dining-rooms, bath-room, two water-closets, kitchen, and offices. There is a service lift from the tradesmen's entrance on the ground-floor, and a passenger-lift from the principal entrance in Sloane-gardens.

The building is of fireproof construction throughout, with a flat roof. Externally it is of red brick with stone dressings.

The contractors are Messrs. Langdale, Hallett, & Co., of 186, Brompton-road, S.W.; and the architect is Mr. Edwin T. Hall.

NEW PREMISES, CHELSEA.

THE illustration shows the King's-road frontage of some premises erected during the last five or six years for Mr. Peter Jones, on land held under a long building lease direct from the Earl of Cadogan. The main fronts are built of red Mansfield stone and red Fareham bricks, and the roofs are covered with German green slates, and having lead dressings. The shops on the ground-floor behind the main buildings have open timber roofs of pitch-pine, the floors being constructed of iron and concrete, laid with teak or pitch-pine. The basements are lofty and light, in part used as show-rooms, and paved with oak blocks on concrete. The costume department, which is two stories high, surrounded by galleries, has been very elaborately fitted with walnut and ebony cases, decorated with carvings of natural foliage. The premises were among the first of their character to be lighted by electricity, when Messrs. Crompton supplied the installation, worked off

two 16 h.p. gas-engines; but the whole of the shops are now lighted by incandescent lamps, supplied from a local centre.

The cost of the buildings and fittings, up to the present time, has amounted to over 50,000*l.*, and the works were executed in sections, the earlier contracts being carried out by Messrs. Clarke & Bracey, and the latter by Messrs. W. Brass & Son. The whole of the carving was executed by Messrs. Wyon & Stewart, the marble pavements by Messrs. Diespecker, the parquet floors by Messrs. Howard, the sanitary arrangements by Messrs. Crapper, under the superintendence of Professor Corfield; the scagliola by Messrs. Bellman & Ivey, and the cast-iron by the Cadogan Iron Works Company.

The whole of the works, including the fittings, have been executed from the designs and under the superintendence of the architects, Messrs. Perry & Reed, who are now engaged on the drawings for considerable additions on the Symons-street front.

ENGLISCHER HOF, MAYENCE.

THIS interesting example of German Renaissance architecture, of which the plate reproduces a drawing, taken from the court-yard, is situated in the oldest part of the city of Mayence, and is entered from one of the narrow, tortuous streets which are characteristic of those centres which formed the busy haunts of men long centuries ago, before the invention of gunpowder caused the old town walls to give way to the modern system of fortification, allowing of its expansion into suburbs.

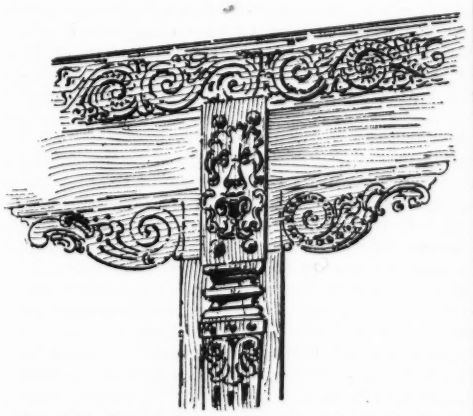
The house was originally the seat of a noble Rhenish family, the Counts of Spiegel, and, therefore, in the middle ages, was known as "Zum grossen Spiegel," and the arms show also a looking-glass (Spiegel) in addition to the other emblems quartered thereon.

The house was built 1562–1624, and it had much suffered by different wars, but was always repaired, and became a hotel in the beginning of the eighteenth century.

The old name was changed into "Zum König von England," on account of the stay of a King of England there for a few days—perhaps King George. Lübke, in his "History of the German Renaissance," mentions the building, and many architectural artists sit in the courtyard during the summer months making studies, &c., &c.

There were also some charming ceilings of wood, and doors, in the Renaissance style, but these were placed in the new palace built for the Grand Duke of Hesse Darmstadt, when he married the Princess Alice of England.

I may add that there still exist in several of the old sixteenth and seventeenth century houses in the neighbourhood most elaborate Renaissance ceilings, panelling, &c., such as are described as having formerly enriched this house.



Detail in Courtyard, Englischer Hof, Mayence.

The detail sketch herewith gives a better idea of the character of the wood work than can be gathered from the illustration.

J. A. JONES.

The Sanitary Institute.—At a meeting of the Council of this Institute, held at the Parkes Museum on the 9th inst., Mr. G. J. Symons, F.R.S., in the chair, it was decided to hold two courses of twelve lectures for sanitary officers, the first course to commence in March, and the second in October. Sixty-four Members and Associates were added to the register, and twenty applications read for election at the next meeting.

THE ARCHITECTURAL ASSOCIATION:

LONDON STREET ARCHITECTURE.

THE PRESIDENT (Mr. H. D. Appleton), in inviting discussion on Mr. F. E. Masey's paper on "London Street Architecture as it is and as it might be" (which was printed *in extenso* in last week's *Builder*) referred to the excellence of the paper and the large amount of ground it covered. Whether it was altogether a students' paper he must leave the meeting to decide, and he hoped they would lay aside any natural diffidence they might have in criticising recent work. He was afraid that the appointment of an architect-inspector would have the effect of very much influencing the character of the design, and most men would be rather inclined to "cotton-up" to the particular style of the architect-inspector (laughter). The reason why terra-cotta was not more used at present was the extreme difficulty of getting it properly made (applause). Any one, too, who had experience of terra-cotta building, especially in London, would hesitate before employing it, simply on account of the harassing delay in getting it.

Mr. Thomas Blashill (Superintending Architect, Metropolitan Board of Works), in proposing a vote of thanks to Mr. Masey, remarked that any one who broached such a subject was entitled to their most hearty thanks, and although the chairman had thrown out some little doubt as to whether it was a students' paper, his own impression was that it was, and that none of the young members need be in the slightest degree backward in expressing their opinion upon it. His own recollection of London was longer than that of most of those he saw around him, for the first time he was in the City he walked over the ground on which Cannon-street was then about to be formed. That would be about 40 years ago, and he looked back with a considerable amount of satisfaction to what had since been done to London. London had not been pulled down and reconstructed, as had been the case with a great portion of Paris; but, taking Cannon-street as one of the first of the great new thoroughfares, it must be conceded that much good work had been done; while, apart from the construction of streets, a great deal of new building of a meritorious kind had taken place. People had been talking for years about improving London, and it would be a bad thing if nothing had been done; but people's views changed considerably in the course of time, and in another twenty years ideas would be very different to what they now were. First of all, they should appreciate the beauty of London more than they did (applause). Then, again, as architects, they should make themselves a little more responsible for what the profession had done. He well remembered Professor Donaldson, thirty years ago, mentioning to his class this very particular subject, and saying that after being five years abroad on the grand tour, when he again stood on Waterloo Bridge he was amazed at the beauty of Somerset House, as compared with many a foreign building standing in an infinitely better position. He (Mr. Blashill) would therefore ask his hearers to look at the matter in a hopeful spirit, and not suppose they were now only beginning upon something which was entirely ugly, for a good commencement had already been made. In referring to foreign cities, he would be inclined to look a little further afield than the lecturer had done, and he knew of no city where there were such good examples to be found, he would not say of the very highest style of art, but of a good general style. The worst thing about London, which spoiled everybody's work, was the dirt on the buildings. No doubt that was due to the smoke, but it should also be remembered that people never washed their buildings (laughter). The remark seemed to create amusement, and possibly every member present had not heard of public buildings being washed, but a great many of the buildings which were at one time praised were now considered ugly merely because they were black. In any continental city of ordinary importance, the proprietor or occupier of a building was compelled to clean it outwardly about every ten years. In London, on the contrary, houses constructed of the finest and most costly materials were left untouched for ten, twenty, or thirty years, by anybody except the painters. That was the ruin of all work, and no one could be expected to admire architecture when it was kept in a state of dirt. In Holland the houses outside were washed every week. Mr. Masey had made the important suggestion that a public official, with, of course, a proper means of appeal, should have control over public buildings. He did not know that he (Mr. Blashill) was the proper person to defend anything of the kind, and he was not sure that he should; but, at any rate, if that was considered to be a good thing by the profession and the public generally, the power given should be strictly limited. Because what would have been said in years gone by, had anyone proposed to erect an important public building in what was termed the Gothic style? Why, no official would have dared to give the necessary leave, and the first instance of a change in style would never have been begun. The powers to be conferred would, therefore, have to be limited, as Mr. Masey had rather hinted, to some low standard. The question of who was to design the public and private buildings was an important one,—whether highly-educated architects were to do it, or whether things were to be left to take their chance. If they looked from one ten years' end to another, they would find the design of those who were considered the best architects permeating a far lower scale of designers. He did not know any city, of any time or country, where the general tone of the buildings was that of great beauty; one had to look for the extraordinary examples, and would have to do so to the end of the chapter. The education of the architect, and the limitation of the profession, were serious matters, which would have to be very carefully considered. He had this subject, which was one of importance, very much at heart, and he personally had great hope that there there would be an increasing amount of good building done, and that, with the better materials used, the progress in the future would be rather more rapid than had been the case in the past (applause).

Mr. J. M. Brydon seconded the vote of thanks, and spoke of the greatness of the subject. The general street architecture of London, he considered, was frequently very bad indeed. A great deal of new work had been done in London recently, and new thoroughfares had been driven through different parts in a haphazard sort of way. Cannon-street was one of the best examples, but he could not say much for Shaftesbury-avenue and Charing-cross-road, when he thought of what might have been done. Those two streets seemed to begin and end nowhere, and to be designed without the slightest idea of any such thing as a vista. Charing-cross-road was a deplorably narrow street, considering that it was the main thoroughfare from north to south in that part of the town. As to the architecture of the London streets, no doubt there were many admirable buildings; but what he complained of was the dead level of mediocrity, which never attained even to what might be called "respectable Classic." They were sometimes told that it was all a matter of taste, but he considered it rather a matter of knowledge, and Mr. Masey had touched the right string when he referred to its being greatly a matter of education. The educational advantages now put in the way of young men and students, both in London and the provinces, could not fail to bring forth good fruit, so that architecture would eventually be designed with greater knowledge, and therefore be better. Somerset House was undoubtedly a scholarly work, and anyone looking at it would see at once that the man who designed it was first of all a scholar. Nowadays, however, there was much half-and-half Classic work done, and it could be seen that the designers had little knowledge of what they were attempting to do. Somerset House, however, was eminently the work, not only of an artist, but also of a scholar, and in spite of all that had since been done, it still remained one of the finest buildings in London (applause). By way of contrast, he considered London a far more interesting city than Paris. At the first visit, Paris was very striking, with its long streets and the height and grandeur of its houses; but it became very flat and stale after a month's stay. London, on the other hand, had a picturesqueness which was one of its strongest points, the streets having a personal interest which those of scarcely any other capital possessed. He was inclined to think that Portland stone and brick were about the best building materials for London, the former getting that silvery-white tint which was so charming in nearly every condition of the atmosphere. That being so, he did not think that terra-cotta was to be lightly taken up. Even in the case of the Constitutional Club, with its clever design, the work was not

good enough. The highest class of workmanship could not be attained in terra-cotta; the whole thing had a sort of cast-iron appearance, and compared badly with what could be done in honest stone or brick (applause).

Mr. Francis Hooper said he thought that the position and influence of architects in England would be greatly enhanced by the increased attention now given to their education, and the opportunities afforded of discussing the architectural problems of the day. There was much to be learnt from what the Parisians had done in the distribution of their thoroughfares, monuments, and public buildings, but there was a great monotony and want of interest in the streets of Paris, which was positively tiresome; they should therefore strive to avoid the mistakes which the Parisians had made in allowing their new streets to be so flat and monotonous. With regard to dirt, there was a great deal of good architecture in London, which, if it could only be seen as the architect intended, would be admired immensely. The effect of colour in architecture could not be disregarded, whether in the details of the construction or the variation of material. In Paris, according to the By-laws, every façade must be cleaned down once in ten years, and, in order to secure uniform action, two of the twenty divisions of the city are scheduled annually, so that both sides of the streets have the houses cleaned down within twelve months. In London, architects, when rebuilding premises in narrow streets, may sometimes take steps for setting back the façade to give greater width to the thoroughfare, inviting the authorities to purchase the land given up, and if this were generally done the narrow streets would gradually disappear, as in Paris. Architects nowadays possess facilities which their forefathers did not, in the use of glazed brick, light iron construction, and plate-glass, and with improved means for lighting and ventilating, they could deal much better with cramped sites.

Mr. E. Doran Webb said he thought Londoners should be grateful to the dirt and fog, which rendered so many plain buildings picturesque, and brought out mouldings which otherwise would never have been noticed (laughter).

Mr. C. H. Brodie said he could not agree that the fog was in any way a blessing to London, though architects and builders of houses might at some future date help to get rid of the nuisance.

Mr. W. H. Atkin Berry said he was thoroughly tired of hearing Paris set up as an example for London, all the conditions affecting building in the two cities being so essentially different. One of the most discouraging facts to the London architect was that the public knew little of what constituted architecture, and cared less. All they cared for was to get the greatest amount of utility in return for their money, and they did not appreciate dignity or style. Terra-cotta might be adaptable to the atmosphere and climate of London, but one great disadvantage was in the delay incurred by its use; all who had experience of it knew that the bricklayers were always ahead of the terra-cotta people. With regard to the cleaning-down of buildings, he believed more attention would be paid to that in the near future. The effect of dirt and that of time were very different: the latter was beautiful, the former only destructive, both to fabric and colour. He infinitely preferred the general effect of London to that of Paris (applause). The effect of Paris was monotonous, whereas that of London was varied and picturesque. For instance, the view up Ludgate-hill could not be surpassed for effect, while Cheapside was picturesque in all weathers (except fog), and, whether looked at from east or west. Then, again, any one who would look towards London from any of the western bridges of the Thames,—say Vauxhall Bridge, especially at sunset,—would acknowledge that the effect was magnificent and could not be surpassed in any Continental city (cheers).

The Chairman added that the Fishmongers' Hall was washed down every year, and the result was extremely good. It was built of Portland stone, which, when washed, looked very much like marble.

The vote of thanks was then put, and carried by acclamation.

Mr. Masey returned thanks, and said that his object in writing the paper was to promote discussion. The successful use of terra-cotta largely depended on the architect and the manufacturer he got hold of. He did not know anything more beautiful than Portland stone and red brick; but excellent examples of the use of terra-cotta could be seen,—as in Mr. Collcutt's buildings in Oxford-street, for instance.

The Class of Construction of the Architectural Association paid a visit to the works and manufactories of Messrs. Sage & Co., shopfitters and workers in wood, Gray's Inn-road, W.C., on Thursday, the 10th inst. The visitors were conducted over the works by the senior partner of the firm, Mr. F. Sage, and were greatly interested by the many ingenious devices that were adopted for saving labour. At the conclusion of the visit a vote of thanks was proposed to Mr. Sage for his great kindness by Mr. Owen Fleming, the Secretary of the Class, and carried by acclamation, and the visitors departed, having spent a most pleasant and profitable afternoon.

The "A. A. Lyric Club" held a very successful smoking concert at Anderton's Hotel, Fleet-street, on the 10th inst., Mr. G. Richards Julian in the chair. The A. A. Lyric Club affords evidence that the members of the Association are as ready to combine for mutual entertainment as for mutual instruction, and the amount of latent musical and elocutionary "talent" which the starting of the Club has evoked is very noteworthy. The programme on the 10th inst. was, with the exception of Mr. Middleton's humorous songs, which were cleverly rendered, wholly sustained by members of the Club. Messrs. Bulmer Booth, W. Sirr, G. A. Proust, Owen Fleming, H. Tanner, E. W. Knight, H. Irmrick, — White, — Ward, Lidstone, Pearse, W. E. Johnson, and the Chairman took part in the programme, Mr. Blanchard being an efficient accompanist.

OBITUARY.

Sir H. A. Hunt.—We regret to learn that Sir Henry Arthur Hunt, C.B., died at his residence, The Lees, Folkestone, on Sunday. He was a son of Mr. James Hunt, of Westminster, and was born in 1810. He was a partner in the firm of Hunt, Stephenson, & Jones, the surveyors, and had been Consulting Surveyor to her Majesty's Office of Works, and Receiver-General for the Dean and Chapter of Westminster. He received his knighthood in July, 1876. He had been a Fellow of the Surveyors' Institution since 1868.

Mr. — Clarke, Architect.—The *Glasgow Herald* of the 11th inst. mentions the death of Mr. Clarke, of the firm of Clarke & Bell, architects. He was a native of Ayr, and served his apprenticeship with Mr. Burn (latterly Burn & Bryce), of Edinburgh. In Mr. Burn's office one of his fellow-draughtsmen was Mr. Bell,—who had been some time in the office of Mr. Elliott, architect of the Royal Bank, Glasgow,—and when, nearly half-a-century ago, the designing of the County Buildings and Merchants' House was submitted to competition, Mr. Clarke and Mr. Bell jointly entered as competitors, and, being successful, were employed to carry out the works. A condition of the competition was that each of the buildings was to have its individuality, but that together they should be in harmony. By the happy accomplishment of this (says the *Herald*),—although the one is Ionic and the other Corinthian,—but perhaps more by the justness of the proportion and the dignity of the composition, the young and hitherto unheard-of firm at once attained a place in the foremost rank of Scottish architects. It established itself in Glasgow, and shortly was engaged on such important works as Barnhill Poorhouse, and the conversion of the Jail into Courts of Justice. Among other buildings from its designs are business premises at the corners of West Nile and Renfield-streets, and St. Vincent-street, the Fish Market, with its very different, yet respectively characteristic, elevations towards Great Clyde-street and Bridgegate, the Kelvinside and the Paisley Municipal Buildings, several terraces in the West-end, and many country mansions. Mr. Clarke took an active part in the Architectural Institute of Scotland, and was one of the promoters of the Exhibition of Architecture and the accessory arts that was held some years ago in Bath-street.

THE LATE MR. E. N. CLIFTON.

THIS gentleman, whose death was briefly announced in our last, was the third and last surviving son of the late Dr. Nathaniel Clifton, of Cross-street, Islington, and was born in Islington on May 24, 1817. He was educated at the Charter-house School as a day boarder, under the late Dr. Russell, leaving in 1834, and commencing his professional career in the office of the late William Inwood as an articled pupil. During the time he served his articles he was engaged upon the drawings and works in connexion with the new St. Pancras Church in the Euston-road, and also upon other works carried out by the late Mr. Inwood. At the termination of his articles he remained with Mr. Inwood until 1837, when he was twenty years of age, and in this year, as joint architect with Mr. Inwood, he carried out the works in connexion with the erection of St. James's Church and St. Stephen's Church, Islington. In the following year he commenced independent practise as architect and surveyor in Tokenhouse-yard, and about the same time obtained the appointment of District Surveyor of Bethnal Green, at that time one of the largest districts in the metropolis—it having been since divided into two districts. From this date his practise steadily increased, and in 1845 (the railway year) and subsequent years during the railway mania, he made surveys and valuations for various lines of railway, and from this time it may be said his successful career commenced, and he became rapidly known as an architect and surveyor. About the year 1850 he carried out the large and important work in the building of the Royal Medical Benevolent College, Epsom, founded by the late John Lumsden Propert, whose eldest daughter he married in 1852, at which time he removed his offices to his private residence in Russell-place, Fitzroy-square. His City practice, however, rapidly increasing, he found it necessary to return to the City, and took temporary offices in the old Excise Office, Old Broad-street, and, having at this time become associated with the late Sir (then Mr.) William Tite, carried out the negotiations for the purchase of that property—of which he was appointed architect. The large building now known as Gresham House was carried out by him, and covers over an acre of land, and it has proved a very successful speculation. During his connexion with Sir William Tite he removed his offices to St. Helen's-place, Bishopsgate-street, into the house where Sir William Tite carried on his practice. Soon after this the Old East India House in Leadenhall-street was for sale, and he was empowered by a syndicate to negotiate with the Government for its purchase. The old premises were demolished, and the present buildings, known as the East India House Estate, were erected, Mr. Clifton being employed as architect. These buildings cover over an acre and a-quarter of land. For many years he has held appointment of Surveyor to the Liverpool and London and Globe Insurance Company, the London and Westminster Bank, the Worshipful Company of Tallow Chandlers, the London and Blackwall Railway Company, the East London Railway Company, the London and South-Western Railway Company, the Governors of the Charities of St. Dunstan in the East, also to the Parish of St. Dunstan in the East, and other smaller appointments. About the year 1875 he was appointed architect to the Holborn Viaduct Land Company, which was formed for building upon the lands the property of the Corporation of the City of London on the Viaduct, in Farringdon-road, Charterhouse-street, Shoe-lane, and Snow-hill. The whole of this important work, embracing between three and four acres of land, is now covered with buildings. He was very largely engaged in arbitrations, valuations, and compensation cases, and purchasing properties connected with the leading railway companies, waterways and various improvements made by her Majesty's Office of Works, the Metropolitan Board of Works, Commissioners of Sewers, Corporation of London, School Board for London, H.M. Post-office, and other public bodies and institutions. He was a Fellow of the Royal Institute of British Architects, a Fellow of the Surveyors' Institution, Member of the Council and past President of same, and also an Associate of the Institution of Civil Engineers. He was frequently appointed as umpire in large and important valuation cases, and his opinion in light and air cases, and questions relating to the Building Act, was considered by many to be second to none. During the last fifteen years of his life he has been a great sufferer from chronic asthma, brought on and in a great measure due to an accident he met with while riding in Hyde Park in 1874.

Among the various buildings erected by Mr. Clifton, those of the greatest importance

are:—The Royal Medical Benevolent College, Epsom; Gresham House, Old Broad-street; the buildings of the East India House Estate Company in Leadenhall and Lime-streets; the London Dock House, Leadenhall-street; Messrs. Mann, Crossman, & Co.'s Brewery, Mile-end; the National Bank, Old Broad-street; Alliance Bank, Borough; additions to the London and Westminster Bank, Lothbury; new branches for the same at Lambeth, Whitechapel, and Southwark; the "Swan with Two Necks," and Messrs. T. Tapling & Co.'s vast expanse of buildings, in Gresham-street; Bishopsgate Schools, Skinner-street; Middle-class Schools, Cowper-street, E.C.; the City and Guilds of London Technical College, Finsbury; the large block of buildings comprising Norfolk-terrace, Bayswater; also a large block of buildings in Westbourne-grove; and various alterations and additions to houses in the West End, and numerous other buildings in the City of London and elsewhere, including several warehouses and wharfs.

Amongst the various works carried out by Mr. Clifton in the country may be mentioned the following:—Numerous railway stations on the Yeovil and Exeter Branch of the London and South-Western Railway; St. Dunstan's College, Catford Bridge, Kent*; schools and chapel at Plaistow, Essex; the Imperial Hotel, Torquay; Clayton Court, Liss, Hants; also a large block of buildings comprising one side of London-street, Folkestone; and residences in various parts of the country.

Some years ago Mr. Clifton took into partnership his eldest son, Mr. William Edward Clifton; also Mr. William Elliot Hope, who for upwards of thirty years had been associated with him in his profession, the name of the firm being E. N. Clifton, Son, & Hope.

Mr. Charles J. Shoppee writes:—

"Mr. Clifton's loss will long be felt in the profession of which he was one of the most distinguished members. His great practical knowledge enabled him to deal with the most important questions, and his extensive practise and sound judgment well qualified him for the position of arbitrator and umpire to which he was so often appointed. Mr. Clifton's integrity was unimpeachable, and he has left an honoured name, which will long be remembered by his *confrères*."

Mr. Edward H. Burnell writes to the same effect, after a knowledge of Mr. Clifton extending over a period of more than forty years.

ARCHITECTURAL SOCIETIES.

Edinburgh Architectural Association.—This Association met in the Architectural Hall, George-street, on the 10th inst., Professor Baldwin Brown, President, in the chair. Before proceeding to the regular business before the meeting, the chairman referred to the loss the Association had sustained in the death of Mr. James Gordon, which was mentioned in our last, p. 34. Alluding to the deceased's professional ability, the speaker said it must have struck all who came in contact with him how thoroughly Mr. Gordon was an artist. The artistic community of Edinburgh, he thought, had lost greatly by his untimely death. It was remitted to the President and the secretary to draw up a minute of condolence with the deceased's family, and sympathy with Mr. and Mrs. Blanc—the former the partner of Mr. Gordon. Mr. James Maclaren, of Dundee, contributed an interesting paper on "Ecclesiastical Remains in Scotland." After glancing at the historical conditions under which the ecclesiastical edifices of Scotland arose, and the place they held in the grand development of Gothic art in Western Europe, the lecturer followed a chronological order in the illustrations. Beginning with the "Round Towers" of Abernethy and Brechin, of the square form of which St. Rule's at St. Andrews is so perfect a type, he showed how these were distinctly of Eastern origin, the masonry, the ornament where it occurred upon them or upon the so-called Runic crosses, and in the pages of the earliest Irish manuscripts, being distinctly Byzantine, and showing the survival of pagan symbols. After dealing with Iona and the Culdees, Mr. Maclaren took up the Norman period, which was illustrated by Leuchars Church, Dunfermline, Kirkwall, Jedburgh, &c. The Transitional period was represented by Arbroath. The Early English or Lancet style appeared in many examples — Dundrennan, Elgin, Pluscardine, St. Andrews, and Glasgow, the longest, though not the largest, of Scottish cathedral churches, and in many respects the most unique, its crypt being certainly the finest in Britain, if not in Europe. In the succeeding style, known as the Decorated, the lecturer had wealth of illustrations—Paisley, Cambuskenneth, Sweetheart, Lincluden, Holyrood, St. Giles, St. Monans, Dundee, Haddington, and Dunkeld. Melrose, the best known of Scottish architectural remains, was late in character, and although distinguished by richness and beauty in details, was not, the lecturer thought, well designed in plan, while as a whole it lacked the stately splendour of Elgin, the massive grandeur of Glasgow, or the broad treatment and superb proportion of Arbroath. With a description of Roslin Chapel, the latest of Scottish Gothic edifices, the lecturer closed an interesting review of the ecclesiastical antiquities of Scotland, which was rendered doubly attractive by forty lime-light illustrations.

Glasgow Architectural Association. — The usual monthly meeting was held in the rooms on the 8th inst.,—the President, Mr. John Keppie, in the chair,—when a paper on "Greek Ornament" was read by Mr. William M'G. Petrie. The development of true principles of design and of many of the actual forms found in Greek architecture and its accessories, from Egyptian and Assyrian sources, was shown by numerous examples. At first symbolism ruled in the choice of ornament, but with the Greeks the abstract beauty of the type alone was the quality which guided them in their selection. The extent to which conventionalisation,—or abstraction,—was carried by the Greeks was a most interesting study, and upon this question much divergence of practice was seen in other styles, whether Classic, Mediæval, or Renaissance. From a study of these some general rules were established, and these were considered at length. Colour and ornamental figure-work,—in the friezes,—was briefly touched upon, and with the other subjects of the paper illustrated by a number of careful drawings prepared by the essayist.

THE PLUMBERS' COMPANY.

On the 10th inst. the Court of the Worshipful Company of Plumbers entertained the members of the Registration Committee at dinner in the City Chamber, Cannon-street Hotel.

The Master, in proposing "The Registration Committee," said that the meetings of the Committee were always attended by a large number of practical working plumbers,—men who had their daily bread to earn; several were accustomed to teach, and had been trained to habits of close observation. These men could not afford to come there merely for the purpose of passing away the time, and their presence there was the most conclusive proof that they were satisfied with the movement and with the manner in which it was being carried out. The value of the services of practical men such as these was beyond computation.

Mr. P. J. Davies, Master Plumber, said the men who were really plumbers desired that practical examinations should be made compulsory in all districts.

Mr. J. C. Ashdown, in responding, said that while the work of the examiners was undoubtedly onerous, they did not grudge their labour, for they felt the object in view was worthy of their best efforts.

Mr. W. Digby Seymour, Q.C. (Renter Warden), in proposing "The Examiners," said that these experienced and practical plumbers, who were devoting a part of their time to the work of the examinations, were doing a twofold service,—they were assisting in the improvement of their craft, and as the same time adding guarantees for the public health. Not being a plumber, he could not profess to criticise the examinations, but he knew sufficient of the matter to be satisfied that the examiners did their duty, and did it impartially.

Mr. J. Hume, Master Plumber, proposed "The Metropolitan and Provincial Plumbers." He referred to the rapid spread of the movement, and mentioned that he had a brother in Edinburgh who was as enthusiastic for the cause as himself.

Mr. D. Emptage, Master Plumber, Margate, said he was glad to hear that the Company were organising local committees. Many plumbers who were anxious to join the movement were prevented from coming to London, and local organisations were necessary to enable them to become registered. He thought the Plumbers' Company were very wise to communicate with the local authorities. If the local bodies took the matter up and talked it over, that would call the attention of the plumbers in the various counties to it, and so by degrees the system would become universal.

Mr. L. F. Gilbert, Operative Plumber, the London representative of the United Operative Plumbers' Association of Great Britain, recommended the formation of local committees of plumbers to organise the registration system throughout London.

Mr. J. W. Clarke, Foreman Plumber, dealt with "Technical Classes for Plumbers." He referred to the large percentage of applicants at the plumbers' examinations who failed to pass, and said that fact was strong evidence of the want of higher training. Plumbers were better workmen than their forefathers, but they were not content to stand still on that account. Plumbers wanted to use their brains. He did not like labour for labour's sake, but for the good which it accomplished. He did not believe in "banging-up" a piece of work in half an hour, and then taking another half hour to efface the marks caused by reckless haste. He would rather spend three-quarters of an hour in doing the work properly. He believed technical education taught men to economise time and labour. But technical education would not do alone. It must be combined with workshop practice. In the plumbers' classes which were established by the Plumbers' Company these two things were combined. Those classes were not intended to teach a complete trade to any one having no previous knowledge, but any man who joined those classes, if he were a plumber, would be able to gradually improve his skill and knowledge, and so prepare himself for a higher and more independent position.

Mr. Clegg, Master Plumber, said that although at the time he applied to be registered he had for some years been a master plumber, and not actually working at his trade, he had willingly offered to undergo any practical test which the Plumbers' Company thought fit to propose. But there were present a number of practical men who had known him all his life, and knew what he could do, and he had not been required to pass an examination. He referred to the spread of technical classes, and mentioned that he had seen boys at those classes bending pipes, wiping joints, and doing all that they would be required to do in the course of a day's work. This he considered a grand thing for the rising generation.

Mr. C. T. Millis, M.I.M.E., Assistant Teacher of Plumbers' Classes at City Guilds Institute, in proposing "Scientific Classes for Plumbers," said that the natural outcome of the registration movement was technical education, and the natural outcome of the latter was scientific classes. It was thought by many that the outcome of the registration movement would be that plumbers would become sanitary engineers. He only hoped that such would be the case. But that could not be until they had received proper training. Plumbers should go through a certain amount of scientific work so that when they put up for a higher position it might not be said that they were fit only to be working plumbers. If the promoters and aiders of that movement succeeded in producing sanitary inspectors who had first of all been practical plumbers, they would have reached a point at which the success of the registration movement would be assured. The action of the Plumbers' Company in connexion with the plumbers' classes and examinations had paved the way for the establishment of similar classes in connexion with other trades.

Mr. George Taylor, Foreman Plumber and Teacher of Plumbers' Classes at the People's Palace, said geometry taught plumbers how to set out their work in a manner which gave to persons not possessing any knowledge of the trade a fair idea of what the effect would be. Mathematics taught them to calculate the result of what they did. Many plumbers did most unheard-of things because they had no idea what the result would be. Metallurgy and chemistry explained the working and right application of the chief materials used by plumbers. It was only necessary to know so much of those subjects as applied to their trade, and there was no very great difficulty in that.

Mr. Alderman Knill (Past Master), referring to "The Future of the Registration Movement," said there was a good saying that we learn from the past to prepare for the future. The Plumbers' Company came down from the days when every trade was protected by its Company. Then every journeyman plumber was an artist in himself. In those days some of the work might have been crude and heavy, but there was no "scamping." The reason of this was that at that time plumbers' apprentices lived in the houses of their masters. The master watched over his apprentice with paternal solicitude, and in his turn the apprentice grew to regard his master and the work he learned from him. In the present day it was impossible to return to this state of things. But they could do their best to restore the system of apprenticeship, without residence with the master, and above all things they could see that every young plumber should be taught the science of his work, and, as far as possible, have restored in him the artistic spirit which animated the plumber of old. This the Plumbers' Company were doing by the registration, technical training, and examination of plumbers.

Mr. W. H. Webb, Master Plumber, in responding, reviewed the course of the movement since its origination at the Congress of Plumbers in 1884, and expressed the opinion that the plumbing trade must be generally satisfied with the progress made.

Proposed Sea-wall, Walton-on-the-Naze.—The Walton-on-the-Naze Improvement Commissioners have selected Mr. R. F. Grantham as their engineer to prepare plans and estimate for the construction of a sea-wall and groyne along the frontage of the town.

* This building was illustrated in the *Builder* April 21, 1888.

UNHEALTHINESS OF DUBLIN BARRACKS.

SIR,—The observations made in last week's *Builder* on the causes which contribute to the unhealthiness of the notorious Royal Barracks in Dublin induce me to state some facts which strangely pass unnoted by local sanitarians, and go far to support Sir R. Rawlinson's contention. I have for many years had an intimate knowledge of all the older City of Dublin and its buildings, and have made a special study of records of buildings which have disappeared, and the dates of their erection and periods of duration. I can say that, almost without exception, every building constructed of certain local materials is old, rotten, unhealthy, or dangerous, before it has attained an age of 100 years. With the exception of the two cathedrals, constantly renewed and rebuilt, and some unimportant fragments elsewhere, there is not a remnant of mediæval Dublin. Its churches, monasteries, city walls, and towers have long vanished. The stone houses of fifteenth-century Dublin generally gave place to "cage-work" houses of the Chester style in the sixteenth century. They were ready to be superseded on their sites at the end of the seventeenth century by what we call the "Dutch Billy" houses. There are a very few of these, with their curved and pedimented gables in a worn-out, tottering condition, to be seen now, and they date from about 1720-30. These gave place about 1790-1800 to the Georgian houses, which are now in turn, in the older city, worn-out, unhealthy, and quite unfit for decent habitation.

The cause of the short duration of so many buildings, public and private, is in some respect in later buildings due to bad bricks and bad building, but it is far more due to the local stone almost exclusively used in rubble masonry. This is a sedimentary rock, locally known as Calp, and it is, when quarried, often mistaken for a hard, compact limestone. It is, however, nothing of the kind, but a treacherous material, which, under conditions of humidity, sooner or later relapses to its condition of native mud. Yet, even still it is widely employed. It is used in flags for foundations. In damp ground it softens, and the house subsides, cracks, and becomes ruinous, or, as in some notable cases, falls without warning. The basements built of it, and their floors laid with it, reek with condensation. As the flags rot and break up, all kind of foulness accumulates in the subsoil of the house, while the soft, sodden walls of the basements are absorbent of unhealthy impurities. In semi-ruinous houses, brick-built above these basements, and ill-built, with rotten wood floors, uncleansed, and,—*experto crede*,—in most cases plagued with incredible swarming of *fleas*, live the great majority of the poorer Dublin folk in the older City. These evil conditions are over and above the more generally notorious ones of insufficient sanitary arrangements and overcrowding in houses not originally meant for tenement occupation. Yet surprise is expressed at the high death-rate of Dublin!

I would maintain, in support of what I have read in the *Builder*, that any building constructed of Calp stone and native timber which has survived 100 years must be rotten and unhealthy for occupants, and only to be improved by being improved off the face of the earth. I note that the foundation of the Royal Barracks was laid in 1701.

This winter has been one of extraordinary humidity, without drying intervals. I have noted in the old walls in and all about the City a progress of rotting of the black stone within four months such as I have not noted in some years before. The condition of roads "repaired" with this utterly unsuitable stone for such a purpose, especially on the north side of Dublin, is simply a morass of black, sticky mud. There has been no time in my experience when, apart from the anxieties about drainage and ordinary sanitary improvements, the older houses of Dublin, by whomsoever occupied, more demanded the serious attention of all persons who are responsible for their condition.

THOMAS DREW, R.H.A.

CLEANING PLASTER CASTS.

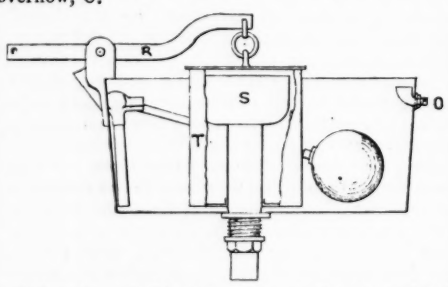
SIR,—Can any of your readers inform me what is the best mode of cleaning fine plaster casts; also a means of rendering them washable?—J. W.

Placing of Organs in Churches.—We have received a letter from Mr. Belcher on this subject, which we are obliged to defer till next week, for want of space.

WATER-WASTE PREVENTING FLUSHING CISTERNS.

SIR,—We fear your note in the issue of December 29, 1888, *re* the syphoning-out of water-waste preventers, may be taken as a condemnation of this method of flushing closets.

We have for years past been manufacturing a vacuum water-waste preventer, with the stand-pipe S (as shown in diagram) a quarter of an inch above the top of cistern, and more than 1 in. above the overflow, O.



The action of this cistern is very simple, and it is started by merely pulling down the lever, R, this raises the cylinder, T, which draws up and discharges into mouth of stand-pipe, S, sufficient water to start the annular syphon.

It is impossible that this tank could fail in the way you describe. DOULTON & Co.

Lambeth, Jan. 14.

The Student's Column.

TOWN DRAINAGE.

III.—THE SURVEYOR.

WHEN the General Board of Health ceased to exist, ten years after its formation, the Act of 1848, which brought it into existence, continued in force, but was amended by the Local Government Act of 1858, the two Acts being read together, and although the obnoxious clauses of the former Act still remained, they were rendered of no effect by the fact that the General Board to which they referred had no longer any existence. Then followed an amendment, in 1861, of the Local Government Act of 1858, and another amendment in 1863; then the Sewage Utilisation Act of 1865, and the Sanitary Act of 1866, with another Sewage Utilisation Act in 1867.

In 1872 was passed the first Act of Parliament for placing every part of England and Wales under a Sanitary Authority. Before that, only parts of the country—those, namely, which were urban in a very strict sense—were under any sanitary jurisdiction. The large areas outside these, in which, nevertheless, were many populous places, were not touched by any Act having regard to sanitary works, and even this one did no more than constitute the authorities and authorise the making of sanitary surveys of the districts not included in former Acts; such surveys, when made, being intended as guides in the action of the Rural Sanitary Authorities, and bases upon which they could, if they chose, proceed with the proper work of sanitary authorities, both in urban and rural districts. This Public Health Act, 1872, together with those which were passed in 1867, 1866, and 1865, called the Sanitary Acts, and the previous ones of 1863, 1861, 1858, 1848, and 1847, formed a great mass of legislation; but so many Acts, some of which contradicted others, or at least led to difficulties from conflicting interpretations, caused much confusion, and in 1875 all former Acts relating to public health in England and Wales were consolidated and amended by the Public Health Act of that year, which is now the legal authority for all works of drainage. This Act brought into one view the confused mass of enactments of the previous twenty-eight years, and so afforded an opportunity for reconsidering the whole question with the experience of that time, during which knowledge of the subject had increased and definite opinions had been formed; but it was not intended or put forward as a full measure of what is required in a Public Health Act. At least it cleared the ground, and, such as it is, it constitutes the chief legal instrument of sanitary works at the present time. Its parent was the Act of 1872.

It was introduced in Parliament by the Local Government Board, which was formed in 1871 to combine the administration of the Public Health Act with that of the Poor Law, and, as is well known, the same Board introduced the recent Local Government Act relating to County Councils. There remains one other Act relating to the present subject,—that of Rivers Pollution Prevention, passed in 1876, the administration of which has hitherto had no practical effect, or so little as to be almost none. Its administration has now been transferred to the County Councils. This completes a general view of the sanitary laws relating to town drainage in all parts of England and Wales except the metropolis, which has always been separated from other towns in Acts relating to this subject. In these the surveyor is so frequently referred to that, either in person or by his representatives, he is met with at every turn. The mere mention of those numerous Acts of Parliament, the provisions of which are comprehended in the 343 clauses of the Public Health Act of 1875, is sufficient to show the importance of his position, but, besides these, some of his duties may be mentioned. It has become a settled thing that he must have a competent knowledge of all works, of whatever nature, which may be undertaken by the authority for whom he acts, who now unwillingly ask any other professional advice; but besides drainage works, water works, and other municipal works of ordinary character, he may at any time be called upon to advise in others,—such as an interference with roads or any public property by projected railways, or tramways, or telegraph lines, and by water and gas works where these belong to commercial companies. More frequently, however, he is consulted about the sewerage of the town, house drainage, water supply, the construction of roads and bridges and their maintenance, floods, municipal buildings, markets, abattoirs, mortuaries, baths, cemeteries, police-stations, fire-brigade stations, recreation grounds, and public parks; watering and lighting streets, new streets and improved frontages of old ones, valuation of property to be interfered with by such improvements; then, as matters of course, the preparation of all plans, specifications, and other instructions necessary for the carrying out of works; and the certification to the authority that all contracts have been duly completed. He may have to prepare instructions for legal documents required in contracts, to certify accounts, to have charge of all materials and implements of the public stock and the places where they are kept, to purchase or hire horses and carts, to inspect with the medical officers all slaughter-houses, to fix the levels and inclinations of all new streets, to prepare plans for the drainage of new districts, to have an accurate knowledge of the condition of every main sewer into which it may be convenient to discharge additional sewage from a new district, and the quantity of sewage it is capable of carrying without flooding the basement-floors of adjoining houses; and, it may be added, the very important duty of courage to advise a new outfall-sewer, when, by continuing the use of an old one with new districts added, sewage must find its way into the cellars and basement-floors of adjoining houses on the occurrence of any great rainfall, subsiding very slowly and doing much damage. The cellars of houses under these circumstances are, in fact, sewage reservoirs for the time required. To say nothing of the metropolitan sewers, cases of this kind have occurred in some of those towns which have extended far beyond the old limits, and even beyond those limits which were looked forward to when the main sewers were laid.

Then, the surveyor must apportion the cost of private improvements between the several owners of property in those cases where a corporation or a local Board execute works on their behalf. Owners of building plots along the line of a new street sometimes prefer to let a notice lapse in order that the sewer and other works they may be required to pay for may be done by the town authority and charged to each owner according to his frontage; a mark of confidence in the surveyor for which he ought to be duly grateful. Then he is responsible for the monthly measurements on account of contract works; must prevent encroachments upon roads or other public places; receive notices of house-drain connexions, and make due appointments for the work being done; keep all public buildings safe for the egress of large numbers of people, not only when first built, but from time to time thereafter; examine all plans of proposed new buildings, and, when built, certify their fitness for habitation; protect passengers in streets from the fall of dangerous buildings, and, by hoardings, make it possible to erect a

building in a busy thoroughfare without accident to passengers; to be satisfied of the sufficient strength of all temporary platforms and other erections for public meetings. To prepare all plans and sections for deposit at the Private Bill Office, the Board of Trade, and at the several offices of the clerk of the peace and the parish clerks, in the case of improvements for which it is intended to apply for an Act of Parliament or for a Provisional Order. All these requirements may be found in laws or bye-laws, or in regulations made in accordance with them. The Municipal Corporations Act of 1882 adds to these working men's dwellings which may be erected on land belonging to a corporation. The office of Town Surveyor, or "Surveyor," as stated in the Act, is called that of Borough Engineer in some boroughs, and Borough Surveyor in others, and City Engineer or City Surveyor in some cities; not because of any difference in the duties or practice in different towns; there is no rule; it is a matter of fancy on the part of the occupant of the office. All are engineers, but while some are content to accept the legal term of Surveyor, others prefer to be called the Engineer. In two large cities, situated within thirty miles of each other, the office in one of them is that of City Engineer, in the other, City Surveyor. In two other large towns, both boroughs, the office in one is that of Borough Engineer, in the other, Borough Surveyor, although the Surveyor's town is larger than the Engineer's. These local differences we neglect, and adhere to the legal term.

RECENT PATENTS.

ABSTRACTS OF SPECIFICATIONS.

284, Improvements in Floor-tiles. M. J. Adams.

By this invention a ribbed or corrugated floor-tile is made of earthenware or metal, or preferably of glass. The corrugations conduct the water away and renders the tile specially suitable for wet and exposed positions.

1394, Ornamental Work for Walls. C. J. Heaton.

A mould pattern is used by this inventor for the production and multiplication in any required number of pieces of decorative material in lengths, in panels, or other forms, made with paper-pulp or composition. The decorative effect is that of lines or ridges raised above the surface, the ridges being black, coloured, or gilt, and the depressed surfaces of another colour or colours to produce any pattern. The design is first copied in "cloison" wire, which is affixed to a metal backing by soldering; or "copper" wire as employed in wall-paper block-printing, *i.e.*, a wood block having copper wire driven into it, and part standing up from it is used. A paper mould is taken, and felt is forced down on the paper, and an embossed pattern produced. Electro-deposition is also used to produce the metallic effects required.

2,180, Seats for Water-closets. H. Wien.

To avoid objectionable contact where seats are used by many persons, a number of detachable seats are used, each of which may be kept by its owner in a suitable box, and under lock and key. They slide on, and distinct pieces or feet are provided on the detachable seat, which correspond with grooves, sockets, or cavities on the fixed part, or *vice versâ*. If desired, they may be formed of several pieces hinged or folded together.

2,815, Fireproof Floors. M. Fawcett.

This invention consists of a floor with flanged tubed lintels made of fire-resisting clay of various sections. These lintels rest on the lower flanges of rolled iron joists passing under the flange of same, thus an air space is formed between the iron joist and the flange of the tubing. Concrete is then filled in between and over the tubes, forming concrete arches, which take their bearing on the lower flange of the iron joists, independent of the tubes. The function of the tubes is to protect the iron joists from the action of fire, to reduce the dead weight of the floor, and to act as a centreing until the concrete is set. A dove-tail groove is formed in the tubes, to make a key for the plaster of the ceiling.

1295, Fanlights, Sashes, &c. R. R. Harrison.

According to this invention, a vertical screw is carried by a fixed bracket with a cog-wheel attached to its lower end, the cogs of which act in conjunction with a worm or spiral projection upon a spindle which is attached to the fixed bracket and revolves at right-angles to the vertical screw. The spindle being operated by a cord-passage over a pulley at one end causes the vertical screw to revolve, thereby raising or lowering the screw-nut as may be required.

16272, Ventilators. B. Holbrook.

The principle of this invention is the introduction into ventilators actuated by a flame a method similar to the ordinary blow-pipe, *i.e.*, in reducing the supply-passage through contracted orifices, and delivering it directly against the flame, which causes great energy of combustion, the liberation of much heat, and the establishment of an active current through the supply-passage of the apartment to be ventilated.

NEW APPLICATIONS FOR PATENTS.

Jan. 1.—5, W. Andrew, Flooring Cramp.—41, H. Lake, Locks for Double or Folding Doors.

Jan. 2.—63, O. Earl, Outside Shop Fittings.

Jan. 3.—94, J. Hargreaves and others, Treatment of Lime Refuse for the Manufacture of Cement.—106, E. Hutchins, Chimney-tops, &c.—110, J. Holder, Heating Buildings, &c.

Jan. 4.—174, J. Birkett, Hoists or Lifts.—182, J. Brown, Sash Windows.—195, J. Greathead, Tunnelling Apparatus.—198, A. Vuigner, Hydraulic Lift or Hoist.

Jan. 5.—234, A. Illidge, Opening and Closing Fanlights, Skylights, &c., and retaining them in any position.

PROVISIONAL SPECIFICATIONS ACCEPTED.

15,653, W. Goatley and G. Burton, Holders and Fasteners for Sliding Window Sashes.—16,476, H. Snell, Fastenings for Doors, &c.—17,117, F. & E. Cornish, Fastenings for Window-sashes, &c.—17,215, A Richardson, Window or Sash Fasteners.—17,325, A. Armstrong, Combined Electrical Bell, Battery, and Push.—17,363, J. Hargreaves, and Others, Manufacture of Cement, &c.—17,364, C. Young, Automatic Bolt for Double Doors.—17,597, H. Walker and R. Carey, Lifts and Hoists.—17,601, H. Handcock, Electrical Bells.—17,607, H. Fenton, Warming Rooms and Buildings.—17,612, U. Smith, Syphon Sewerage System.—17,641, J. Ogg, Cutting and Dressing Stone, &c.—17,785, P. Knee, Water Waste Preventers, &c.—17,830, R. Peel, Top Bars for Fire Grates.—17,845, J. Corcoran, Heating or Warming Buildings, &c.—17,991, J. & A. Duckett, Water-closets.—18,235, C. Roe, Fire Grates.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to Opposition for Two Months.

2,605, E. Dean, Cooling and Ventilating Buildings, &c.—3,178, T. Cook, Dividing Rooms by Revolving and Sliding Partitions.—3,200, S. Cravos, Construction of Windows and Casements.—3,380, R. Ferens and J. Love, Gully-traps, &c.—3,487, G. Mitchell, Waste-preventing Valves for Water-closets, &c.—3,513, W. Rigby, Dressing or Cutting Stone, &c.—3,553, J. Ward, Automatic Sprinklers.—15,398, H. Planner, Disinfecting Apparatus for Water-closets, Drains, &c.

RECENT SALES OF PROPERTY.

ESTATE EXCHANGE REPORT.

JAN. 2.

By T. TURNER.

Brook Green—6, Dewhurst-road, 92 years, ground-rent £8	£485

JAN. 8.

By PHILLIPS, LEA, & DAVIES.

Camberwell—155, Southampton-street, freehold	£6.0
Heathfield, Sussex—"Burnt House Farm," 29 acres freehold	675
Old Ford, Usher-road—Ground-rent of £3. 18s. 6d., reversion in 65 years	75
Limehouse, Ropemaker's Fields—Moiety of a ground-rent of £32, reversion in 64 years	400
Camberwell—Southampton-street, ground-rent of £6, reversion in 50 years	210
Battersea, York-road - Ground-rent of £4, reversion in 58¾ years	120
Hibbert-street—Ground-rent of £10, reversion in 59 years	250
Linda-street—Ground-rent of £12, reversion in 59 years	3 0
Ground-rent of £11. 3s., reversion in 60 years	260

By C. & H. WHITE.

Lambeth, Paradise-street—Freehold manufacturing premises	5,150
High-street—Copyhold rental of £120, with reversion in 56 years	2,450
Mile End—62, White Horse-lane, 77 years, ground-rent £7	305
34 and 36, Adelina-grove, 16 years, ground-rent £6	100
8 and 10, Woolsey-street, 11 years, ground-rent £4. 10s.	135
161 and 163, Jubilee-street, 11 years, ground-rent £4. 12s.	200
New Cross—158, New Cross-road, freehold	700
Strand, Wych-street—Ground-rent of £50, reversion in 74 years	1,250

JAN. 10.

By H. C. NEWSON.

Marylebone—6 and 7, Upper Bridport-street, 20 years, ground-rent £5. 5s.	355

By C. C. & T. MOORE.

Old Ford-road—No. 438, "The Gunmakers' Arms" Beerhouse, freehold	970
Bethnal Green—19 and 21, Collingwood-street, copyhold	355
Holloway—78 and 80, George's-road, freehold	400
Forest Gate—42, Beaconsfield-terrace, 87 years, ground-rent £10. 10s.	150

JAN. 11.

By W. B. HALLETT.

Holloway—18, Ward-road, 67 years, ground-rent £6	300

MEETINGS.

MONDAY, JANUARY 21.

Society of Arts (Cantor Lectures).—Mr. Alan S. Cole on "Egyptian Tapestry and Textiles." I. 8 p.m.

London Institution.—Mr. A. A. Common, F.R.S., on "Astronomical Photography." 5 p.m.

Leeds and Yorkshire Architectural Society.—Mr. R. T. Blomfield, M.A., on "Architects of the English Renaissance." 7.30 p.m.

TUESDAY, JANUARY 22.

Society of Arts.—Sir J. D. Linton, P.R.I., on "Some Recent Movements in Relation to the Applied Arts." 8 p.m.

Institution of Civil Engineers.—Further discussion on Mr. E. Worthington's paper on "The Compound Principle as applied to Locomotives." 8 p.m.

St. Paul's Ecclesiological Society.—Mr. Andrew Oliver on "Monumental Brasses and their Details." 7.30 p.m.

Birmingham Architectural Association.—Mr. F. R. Farrow, A.R.I.B.A., on "The Examination in Architecture, and the Necessary Preparation."

Manchester Architectural Association.—Paper by Mr. J. A. Gotch, F.R.I.B.A. 7.30 p.m.

Glasgow Architectural Association.—Mr. Hippolyte J. Blanc on "Scottish Collegiate Churches of the Fifteenth and Sixteenth Centuries."

WEDNESDAY, JANUARY 23.

Society of Arts.—Professor G. Forbes on "Electric Meters for Central Stations." 8 p.m.

Civil and Mechanical Engineers' Society.—Mr. R. N. Boyd on "Boring for Petroleum in Galicia, Austria." 7 p.m.

Liverpool Engineering Society.—Mr. H. H. West on "Steel in the Hands of the Naval Architect." 8 p.m.

THURSDAY, JANUARY 24.

Sanitary Institute.—Dr. G. V. Poore on "London: Ancient and Modern, from a Sanitary Point of View." 5 p.m.

Institution of Electrical Engineers.—Prof. A. Jamieson on "The Insulation Resistance of Electric Light Installations." 8 p.m.

Society of Antiquaries.—8.30 p.m.

Royal Institution.—Professor J. W. Judd, F.R.S., on "The Metamorphoses of Minerals." 3 p.m.

Edinburgh Architectural Association.—Mr. A. N. Paterson, M.A., on "Training the Architect Abroad and at Home." 8 p.m.

FRIDAY, JANUARY 25.

Institution of Civil Engineers (Students' Meeting).—Mr. W. W. F. Pullen on "Water-softening and Filtering Apparatus for Locomotive Purposes, at the Taff Vale Railway Company's Penarth Dock Station, near Cardiff." 7.30 p.m.

Society of Arts (Indian Section).—Mr. H. H. Johnston on "The Asiatic Colonisation of East Africa." 8 p.m.

Miscellanea.

Properties for Sale at the Mart.—On January 25, under appointment of Mr. Justice Stirling (Lewis *v.* Wintertone), the lease of the Foxdale (Pandora) Lead Mine, three miles distant from Llancroft railway station, with all plant, machinery, &c. This property, extending over eighty-seven acres, is held for an unexpired term of seventeen years from June 1, 1887, at a nominal rent of 20*l.* a year, emerging into a royalty. On January 31, Blackwall Point Dry Dock, East Greenwich, freehold, covering an area of 4¼ acres; the dock is 470 ft. by 68 ft; there are three large slipways, and the river frontage is 400 ft. long. The subway, undertaken by the Metropolitan Board of Works, will open, at its south end, close to these premises, and thus place them in direct communication with the opposite Blackwall. On February 1, the block known as Times-chambers, opposite St. Paul's station, Queen Victoria-street, held for about 97 years at a ground-rent, and yielding a total rental estimated at 1,325*l.* a year. The ground floor and basement are in hand; the upper three floors are let to the National Telephone Company, on lease, at 575*l.* per annum. On an early day, the unexpired fifty years' lease of Nos. 12 and 13, Poultry, at the rent of 450*l.* per annum. The premises, lately rebuilt, consist of five upper floors, arranged as offices, with a ground-floor of two shops and basement, which yield a rental of about 1,450*l.* a year. On February 22, by order of the Commissioners of Sewers, a freehold ground-rent of 360*l.* per annum, secured upon No. 164, Fenchurch-street, and on the Blue Anchor Tavern, Bell-court, in the rear, with reversion in twenty-eight years. And at Mason's Hall Tavern, on January 24 current, by order of the Court, in Ashton *v.* Chenery, The Grapes, No. 45, Strand, with Nos 15 and 16, York-place, in the rear—freehold. The Grapes Tavern was rebuilt in 1869, and is let on lease for an unexpired term of twenty-nine years, at 160*l.* per annum.

The Organ, Gloucester Cathedral.—The reconstruction of this hitherto inadequate instrument was celebrated by three special services, on Thursday, the 10th instant. The main body of the organ was built by Renatus and Charles Harris, in 1666. The case has not been interfered with, and several of the original pipes, highly ornamented, are retained.

South Kensington and Bethnal-green Museums.—We are officially informed that there has been a very marked increase in the number of visitors to the South Kensington Museum during the last year, the numbers rising from 788,412 in 1887 to 897,225 in 1888. But this increase of 108,813 is quite put in the shade by that of 500,582 at the Bethnal-green Museum, which, in its total of 910,511 for the past year has, as will be seen, distanced the parent institution. This great influx of visitors, more than double that of the previous year, was no doubt in great measure due to the exhibition there of Her Majesty's Jubilee presents after they had been shown to the West-end at St. James's Palace. But some part of the increase must be attributed to the fine collection lent by the Hon. W. F. B. Massey Mainwaring. The increase in numbers at South Kensington was not confined to the main Museum, but extended to the separate collections,—the Science Museum and the India Museum,—which are in the galleries at the west side of Prince's-gate, and which are not open in the evening, as are,—on three evenings in the week,—the collections in the main building on the east of Prince's-gate, and the Bethnal-green Museum. The numbers visiting the science collections increased from 177,465 in 1887, to 258,796 in 1888, notwithstanding the fact that the galleries have been severed by the new road cut across the Horticultural-gardens, while the visitors to the India Museum increased from 116,574 to 152,911. The numbers of visitors are taken in all cases by turnstiles.

A Boot and Shoe Factory at Croydon.—Additions to the factory at South End, Croydon, for Messrs. J. Cooper & Son, boot and shoe manufacturers, have just been completed by Mr. G. E. Bryan, builder, South Norwood, from the plans and under the direction of Mr. F. West, architect, Croydon. The new buildings provide accommodation for 250 *employés*, and three new stock-rooms, each measuring 70 ft. by 40 ft.; a packing-room, 60 ft. by 35 ft.; and "fitting-up" and "press" rooms. In fitting up two of the new stock-rooms with racks to receive the finished boots, nearly four miles of small scantling were used. The iron girders and columns were supplied by Messrs. Measures Bros., & Co., of Southwark; the machinery by Messrs. Gimson & Co., of Leicester; and a considerable portion of the floors and principal staircases are constructed of old ship oak and teak from the yards of Messrs. Castle & Sons, Millbank.

High Speeds for Passenger Lifts.—We are informed that a passenger lift has just been completed at Beaufort Mansions, Queen Anne's Gate, by Messrs. Archibald Smith & Stevens, which on trial carried its ordinary working load 62 ft. high in nine seconds, or at the rate of 413 ft. per minute. But as the first and last 10 ft. sections were utilised for gradually starting and stopping respectively, the remaining 42 ft. were actually run at the rate of 540 ft. per minute. Notwithstanding this high speed, we are told that the cage was entirely controlled by an operator travelling with it. When adjusted for ordinary running the maximum efficiency was found to be 76 per cent. The actual maximum was, however, 84 per cent., the difference of 8 per cent. being sacrificed to obtain quick descent of the empty cage. The machine was one of the "Reliance" type, constructed under Stevens and Major's patent.

New Offices for the Metropolitan Police.—Under the superintendence of Mr. Norman Shaw, R.A., architect, these buildings,—on the site of the abortive Opera House, Victoria Embankment,—are making progress, and will be ready within perhaps twenty months hence. The structure is to be 150 ft. by 200 ft. on plan, and about 110 ft. high. The various departments will range around an inner square. The material is granite, the blocks dressed at Dartmoor, for the lower two storeys; for the storeys above, brick with stone dressings. The top floor will be appropriated, in part, to a warehouse for stores, constables' outfits, and a tailor's workshop.

Lectures on Geology.—It has just been arranged that Professor H. G. Seeley, F.R.S., will deliver a course of lectures in Holborn Town Hall, Gray's Inn-road, every Wednesday evening during February, at eight o'clock. This course is given at the request of the London Geological Field Class. The lectures will relate to the strata to be seen in the coming summer excursions of the class. A comparison will be made between the geological structure of localities to be visited and the conditions of the same strata in other parts of England or the Continent.

The Carpenters' Company and Technical Education.—A dinner was given on Tuesday evening at Carpenters' Hall, London-wall, by the Master and Wardens of the Carpenters' Company to those gentlemen who have lent assistance to that body in their efforts to improve the technical education of their craft. The Master (Mr. Alfred Rosher) presided, and among those present were Mr. Seymour Lucas, R.A., Mr. R. Norman Shaw, R.A., Prof. Aitchison, A.R.A., Prof. T. Roger Smith, Mr. T. Chatfeild Clarke, Mr. C. J. Shoppee, Mr. H. C. Smith, Mr. J. Wilkinson, Mr. Warden Banister Fletcher, Mr. Warden W. Robertson, Mr. Warden T. Robertson, and Mr. Stanton William Preston, Clerk. The loyal and patriotic toasts having been drunk, Mr. H. C. Smith, as Past Master, proposed the "Examiners at the recent competitions instituted in connexion with the exhibition organised by the Company." In doing so, he said that for years past the Company had been endeavouring to raise the artistic taste, scientific knowledge, and skill in workmanship of those engaged in their craft, and in evidence of this he might point to the various classes for technical and other education which they had established at Stratford, together with an excellent library for the use of students. He might also refer to the exhibitions which had been held in that hall, and to the lectures there given by the most eminent professors of the day, as well as to the numerous prizes for proficiency which they had awarded. The Company felt, moreover, that they had a further duty to perform, and that was to bring the proficiency of those who had studied under their guidance before the employers of labour. With this object in view, they had instituted stringent and searching examinations, conferring certificates the production of which would stamp the holders as men possessing the talent, skill, and knowledge enabling them to fill the higher positions in the trade. They were fortunate in having some gentlemen belonging to their body who were well qualified to act as examiners, and they were further fortunate in securing the services in this connexion of other gentlemen of eminence in architecture and the building trade. Most heartily they had worked in carrying out the object of the Company, and he begged to offer their sincere thanks for the assistance received from them,—Mr. Slater and Mr. Wilkinson responded.—In proposing the health of the "Judges and Exhibitors" at the Exhibition, Mr. Preston complained of "appeals to the gallery" made by certain condidates for the London County Council, who spoke of dis-establishing the London Companies. He denied the truth of the assertion that the London guilds were not working in behalf of the trades which they represented. The City Guilds had taken up the work of technical education with their whole heart, and they would not shrink from it. Mr. Chatfeild Clarke, in replying, said he agreed with Sir Frederic Leighton that the English workman was deficient in artistic sense, but at the same time he could testify that a good deal of excellent and creditable work had been done by the students in the technical classes of the Carpenters' Company. That Company had set a very noble example, and those who desired to see the City Companies, not destroyed, but going back to their real functions, would gladly recognise that the Carpenters' Company were doing admirable work.

Madras Tramways.—Under the new concession, the construction of the lines is to be commenced within twelve months from, it is presumed, December, and Nos. 1 and 2 lines are to be open for traffic before the expiry of two years, and the remaining lines before the expiry of five years from the date of the order. The local authorities are empowered to purchase the tramways after the expiration of twenty-one years, the amount to be paid for the undertaking to equal the amount of nominal capital actually issued and expended by the promoters at date of purchase, plus one-fourth of such amount added by way of compensation for compulsory acquisition of the undertaking; the purchase-money to be paid in gold in London or Madras. The motive-power may consist of animal, steam, or any mechanical power, provided that, in the two latter cases, their use shall be subject to the regulations set forth in the schedule attached to the order. The engines and carriages to be used are to be of the best construction. The total length of the lines would be 18½ miles, and the cost of laying them would range between 5,000*l.* and 6,500*l.* per mile.—*Indian Engineer.*

Fatal Fall of a Building at Birmingham.—A shocking accident, resulting in the death of two men, occurred on Wednesday afternoon in Lawley-street, Birmingham, where (according to the *Daily Chronicle*) workmen have been engaged in extending the viaduct by means of which the Midland and London and North-Western Railway Companies' trains cross Lawley-street towards Sutton. In order to complete this work, the Railway Tavern public-house, which adjoined the viaduct, was, some three weeks ago, pulled down, but the property, comprising two houses next the tavern, on the other side, was left standing, and was not shored up with timber. A day or two ago the workmen employed in the extension of the viaduct commenced to lay the foundation of a brick pier on the ground which originally formed the foundation of the public-house, and immediately under the shadow of the building already mentioned. Six or seven men were thus engaged on Wednesday when a rumbling noise was heard, and a cry was raised that the building was falling. Three of the men scrambled out of the foundation and made good their escape into Lawley-street, but three others, named Harry Manning, labourer; William Clews, bricklayer; and —— Poole, bricklayer, were not so fortunate. The whole of the gable end of the house, from top to bottom, came down with a crash upon them. As soon as they were released they were driven to the General Hospital. Manning was found to be dead, and Poole died shortly after his admission. Clews has sustained terrible injuries, and his recovery is doubtful.

Liverpool Engineering Society.—The sixth ordinary meeting of the present session of the Liverpool Engineering Society was held on the 9th inst. at the Royal Institution, Colquitt-street, when the chair was occupied by Mr. Charles H. Darbishire, Assoc. M.Inst.C.E., the President. The routine business having been transacted, Mr. A. W. Brightmore, M.Sc., read a paper on the "Application of Atmospheric Air to produce Motive-power." After giving a short account of the thermodynamics of gases, Mr. Brightmore showed that the efficiency of a steam-engine was limited by the loss of temperature between the gases in the furnace and the water in the boiler. Some hot-air engines were open to the same objection, and others that had not this defect lost efficiency by insufficient expansion. In the gas-engine,—a species of air-engine, the working substance being air, to which heat was applied in the most direct manner by the combustion of gas,—the amount of expansion obtained was greater than in the air-engines. The gas-engine, therefore, worked between wider limits of temperature, and was consequently more efficient than either the steam-engine or the hot-air engine. A brief discussion ensued, and the thanks of the meeting were given to Mr. Brightmore for his paper.

Institution of Mechanical Engineers.—The forty-second annual general meeting of this Institution will be held on Wednesday, Jan. 30; Thursday, Jan. 31; and Friday, Feb. 1, at 25, Great George-street, Westminster, by kind permission of the Council of the Institution of Civil Engineers. The chair will be taken by the President at half-past seven p.m. on each evening. The annual report of the Council will be presented to the meeting on Wednesday. The annual election of the President, Vice-Presidents, and Members of Council, and the ordinary election of new Members, Associates, and Graduates, will take place at the meeting on Wednesday. The President, Mr. Edward H. Carbutt, having been in office for two years, will retire, and will induct into the chair the President-elect, Mr. Charles Cochrane. The following papers will be read and discussed, as far as time permits:—Supplementary paper on "The use of Petroleum Refuse as Fuel in Locomotive Engines," by Mr. Thomas Urquhart, Locomotive Superintendent Grazi and Tsaritsin Railway, South-east Russia; on "Compound Locomotives," by Mr. R. Herbert Lapage, of London; and on "The Latest Development of Roller Flour Milling," by Mr. Henry Simon, of Manchester.

New Museum in Berlin.—A Berlin journal states that Professor Virchow, the well-known *savant*, is making arrangements for the establishment in Berlin of a national German museum, similar to the Northern Museum at Stockholm. German national life is to be fully represented and illustrated by means of costumes, furniture, specimens of the artisans' craft and of home industry.

The English Iron Trade.—There is no abatement in the generally steady tone of the English iron market. There is a tendency, as there always will be, on the part of buyers to beat down the prices of some manufactures, but, on the whole, the tendency of the market is upwards. The Glasgow warrant market has been flat this week, and warrants are lower than a week ago; Scotch makers, although somewhat quieter, keep up their rates pretty well, generally. North of England pig-iron is steady at 34s., with makers for prompt and rising for forward sales. Hematites are also firm at their former values. Lancashire, Lincolnshire, and Derbyshire producers of crude iron hold out well against any reduction, being fully sold forward; the first-named having been able to advance their list rates 1s. a ton. In Staffordshire, also, there is no giving way. Old materials (scrap iron and old rails), although the trade in them is limited, are firmly held at the old rates. Finished iron makers are very busy, and easily obtain their higher prices. Staffordshire sheets have altogether been advanced 10s. per ton since the beginning of the year, and Scotch sheets, plates, and nail rods have also risen from 5s. to 10s. a ton. Bar makers generally are doing a good business. Tin plates are quiet, but prices are not materially changed. Steel manufacturers are still getting a good run of orders for plates and angles, as well as for rails, and altogether their prospects for the year are bright. The outlook in the shipbuilding trade continues as favourable as ever. Engineers keep well employed.—*Iron.*

Registered Plumbers.—In view of the mortality among young children from zymotic diseases traceable to insanitary arrangements, it is satisfactory to notice that the authorities of the new Convalescent Home for Children, at Gilmerton, N.B., have insisted upon the plumbers' work and sanitary arrangements being carried out by registered plumbers.—*Lancet.*

PRICES CURRENT OF MATERIALS.

TIMBER.	£.	s.	d.	£.	s.	d.
Greenheart, B.G.....ton	6	10	0	7	10	0
Teak, E.I.....load	9	0	0	14	0	0
Sequoia, U.S.....foot cube	0	2	3	0	3	0
Ash, Canada.....load	3	10	0	5	0	0
Birch ,, ...	3	10	0	6	0	0
Elm ,, ...	4	0	0	5	0	0
Fir, Dantsic, &c.	2	0	0	4	0	0
Oak ,, ...	2	0	0	4	10	0
Canada	5	10	0	7	0	0
Pine, Canada red	3	5	0	4	0	0
,, yellow	3	10	0	5	10	0
Lath, Dantsic.....fathom	4	10	0	5	10	0
St. Petersburg.....	5	0	0	6	10	0
Wainscot, Riga, &c.....log	2	15	0	4	5	0
,, Odessa, crown.....	2	15	0	3	5	0
Deals, Finland, 2nd and 1st...std.100	9	0	0	10	0	0
,, ,, 4th and 3rd.....	7	0	0	8	10	0
Riga	7	0	0	8	0	0
St. Petersburg, 1st yellow	10	0	0	15	0	0
,, 2nd ,, ...	9	0	0	10	0	0
,, white	8	0	0	10	10	0
Swedish	7	10	0	16	0	0
White Sea	8	10	0	17	0	0
Canada, Pine, 1st	16	0	0	26	10	0
,, ,, 2nd	11	0	0	17	10	0
,, ,, 3rd, &c.	7	10	0	10	10	0
,, Spruce, 1st	9	10	0	10	10	0
,, ,, 3rd and 2nd	7	0	0	8	10	0
New Brunswick, &c.	6	15	0	8	15	0
Battens, all kinds	5	10	0	12	0	0
Flooring Boards, sq., 1 in., prepared, First	0	11	0	0	14	6
Second	0	8	0	0	10	9
Other qualities	0	5	6	0	7	9
Cedar, Cuba.....foot	0	0	3½	0	0	4½
Honduras, &c.....	0	0	3½	0	0	4½
Australian	0	0	3	0	0	3½
Mahogany, Cuba	0	0	4½	0	0	5½
St. Domingo, cargo average	0	0	4½	0	0	5½
Mexican ,, ...	0	0	4½	0	0	4½
Mahogany, Tobasco, cargo average.	0	0	4½	0	0	5½
Honduras ,, ...	0	0	4½	0	0	5½
Box, Turkey .....ton	5	0	0	12	0	0
Rose, Rio .....ton	12	0	0	19	0	0
Bahia	13	0	0	18	0	0
Satin, St Domingo .....foot	0	0	6	0	1	0
Porto Rico	0	0	9	0	1	3
Walnut, Italian .....foot	0	0	4½	0	0	6½

METALS.						
IRON—Bar, Welsh, in London...ton	4	17	6	5	0	0
,, ,, at works in Wales ...	4	15	0	5	0	0
,, Staffordshire, in London ...	5	15	0	7	0	0
COPPER—						
British, cake and ingot..... ton	79	0	0	79	10	0
Best selected	79	10	0	0	0	0
Sheets, strong	83	0	0	85	0	0
Chili, bars	78	5	0	0	0	0
YELLOW METAL.....lb.	0	0	7½	0	0	7½
LEAD—						
Sheet, English.....	14	10	0	0	0	0
SPELTER—						
Silesian, special .....ton	18	7	6	18	10	0
Ordinary brands.....	18	5	0	18	7	6
TIN—						
Straits.....ton	98	10	0	0	0	0
Australian	98	10	0	0	0	0
English Ingots.....	101	0	0	0	0	0
ZINC—English sheet .....ton	21	0	0	22	0	0

OILS.	£.	s.	d.	£.	s.	d.
Linseed .....ton	18	5	0	18	7	6
Cocoanut, Cochin	28	0	0	30	0	0
Ceylon	27	5	0	27	10	0
Palm, Lagos	28	10	0	0	0	0
Rapeseed, English pale	31	15	0	32	0	0
,, brown	30	10	0	0	0	0

OILS (*continued*).	£.	s.	d.	£.	s.	d.
Cottonseed, refined	26	0	0	0	0	0
Tallow and Oleine	19	0	0	45	0	0
Lubricating, U.S.	5	0	0	6	0	0
,, refined	7	0	0	12	0	0
TAR—Stockholm .....barrel	1	2	0	1	2	6
Archangel	0	13	9	0	0	0

CONTRACTS AND PUBLIC APPOINTMENTS.

Epitome of Advertisements in this Number.

CONTRACTS.

Nature of Work, or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.	Page.
Making-up and Paving Road	St. Mary (Battersea) Vestry	J. T. Pilditch.....	Jan. 22nd	ii.
Roadmaking Works	Lewisham Bd. of Wks.	*Official*	do.	ii.
Road Paving	West Ham Council.....	Lewis Angell.....	do.	xi.
Making-up Roads, &c.....	Felixstowe, &c., Loc. Bd.	P. Oldfield.....	Jan. 23rd	ii.
Road Materials, Royal Parks.....	Com. of H.M. Works ...	*Official*.....	Jan. 25th	ii.
Post Office, North Shields	do.	do.	Jan. 26th	ii.
Repairing and Altering Five Houses	Conservative Land Soc.	Not stated	Jan. 28th	xi.
Paving Works.....	Wandsworth Bd. of Wks	*Official*.....	Jan. 29th	xi.
Drainage and Sewer Work	Chelsea Vestry.....	do.	do.	xi.
Broken Granite, Siftings, Flints, and Gravel	Dover Town Council ...	do.	do.	xi.
Timber	Great Western Ry. Co.	do.	do.	xi.
Extension of Waterworks	Cheltenham Corporatn.	Mr. McLandsborough .	do.	xii.
Waterworks	Mansfield U.R.S.A.....	Herbert Walker	Jan. 30th	xi.
Furnace, with Boiler, Engine, and Machinery	Hornsey Local Board ...	T. de Courcy Meade.....	Feb 4th	ii.
Making-up Roads, Rochester	.....	.....	do.	xi.
Repairs to Roof, Rain Water Pipes, &c.....	Chelsea Guardians	A. & C. Harston	Feb. 6th	xi.
Concrete Paving.....	Gt. Yarmouth U.S.A.	J. W. Cockrill	Feb. 7th	xi.
Waterworks Extension.....	Warwick Town Council	E. M. Richards	Feb. 9th	ii.
Additional Subsiding Tanks, Carriers, &c.....	Hanwell Local Board ...	E. J. W. Herbert	Feb. 18th	xi.
Works, Repairs, and Supply of Building Mat.	War Department.....	*Official*.....	Mar. 4th	ii.
Footway Tunnel across and under R. Thames	Met. Bd. of Works	do.	Mar. 15th	ii.
Annual Repairs to Buildings and Furniture...	School Bd. for London	do.	Not stated.	xi.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.	Page.
Surveyor	Shanghai Mun. Council	3,600 taels	Jan. 28th	xvii.
Head Mechanical Draughtsman	Government of India...	240 Rupees per month	Feb. 4th	xvii.
Engineer Students and Students in Naval Con.	C. S. Commission	Not stated.....	March 15th	xvii.

TENDERS.

[Communications for insertion under this heading must reach us *not later than* 12 *Noon on Thursdays.*]

BEDFORD.—For the erection of new Conservative Club premises, Bedford, for the Directors of the Bedford Conservative Club House Company, Limited. Mr. James Hull, architect and surveyor, 17, St. Paul's-square, Bedford:—

Ager.....	£2,891 14 3
Corby	2,608 0 0
Cherry.....	2,600 10 0
Foster	2,567 0 0
Freshwater.....	2,538 0 0
Gell	2,538 0 0
Smith	2,529 0 0
Steers	2,479 0 0
Laughton	2,458 0 0
Coleman	2,424 17 8
White	2,397 0 0

BLACKHEATH.—For supplying fittings to Blackheath Post-office, for her Majesty's Office of Works. Mr. R. H. Boyce, architect:—

J. O. Richardson, Albert Works, Peckham, S.E. (accepted).....	£109 12 0

BROMLEY (Kent).—For making up New Homesdale-road, for the Bromley Local Board. Mr. Hugh S. Cregeen, Surveyor:—

E. Peill & Sons.....	£307 5 4
T. Lansbury (accepted).....	297 6 2

BUILTH.—For house in Castle-street, Builth, for Mr. Evan Evans:—

Williams, Knighton	£634 0 0
Evans, Erwood	510 0 0
Meredith, Newbridge	498 0 0
H. Price, Builth (accepted)	497 10 0
J. M. Jones, Builth	496 0 0

CHARLTON (Kent).—For the erection of Wesleyan Chapel, Lower-road, Charlton. Mr. H. H. Church, architect, Woolwich. Quantities by Mr. W. H. Strudwick:—

Parker, Peckham.....	£5,137 0 0
Holt, Croydon	5,100 0 0
Staines & Co., Great Eastern-street	4,944 0 0
Proctor, Woolwich	4,895 0 0
Coxhead, Leytonstone	4,845 0 0
Higgs, Loughborough Junction	4,800 0 0
Stephenson, Bishopsgate	4,785 0 0
Batley, Old Kent-road	4,697 0 0
Frank B. Smith, Greenwich	4,684 0 0
Wallis & Sons, Maidstone	4,533 0 0
Tinson, Kensington.....	4,476 19 0
Holloway, Lavender-hill	4,450 0 0
Shillitoe & Sons, Bury St. Edmunds	4,450 0 0
Henley & Co., Norwood.....	4,397 0 0
Ward Worlingham, Surrey	4,379 0 0
Robson, Lewisham	4,374 0 0
Richardson, Peckham	4,369 0 0
Holloway, New-cross	4,343 0 0
Allen & Sons, Kilburn.....	4,290 0 0
Covil, Woolwich	4,200 0 0
Wells, Bermondsey	4,200 0 0
Mutton & Wallis, Gravesend.....	4,175 0 0
Kemp, Aldershot	4,089 0 0

CHELTENHAM.—For the erection of village chapel at Shipton Oliffe. Messrs. Kerley & Ellis, architects, Exmouth:—

Hayman, Exmouth (accepted)	£218 6 6

[Lowest of six tenders received.]

CHESHUNT.—For making-up roads, for the Cheshunt Local Board. Mr. Thos. Bennett, engineer:—

Henry Potter, Lower Clapton	£2,080 0 0
F. Sandars, Cheshunt	2,387 0 0
J. Jackson, Enfield	1,687 0 0
J. Dixon, St. Albans	1,636 0 0
J. Broomfield, Tottenham.....	1,332 0 0
G. Bell, Cheshunt	1,560 0 0
H. Morris, Dalston (accepted)	1,250 0 0

CROYDON.—For alterations at the Friends' Meeting Room. Mr. W. C. Reed, architect:—

Smith & Bulled	£119 0 0
Goulder & Glasscock	106 0 0

CROYDON.—For alterations to shop-front, and for erecting new green-house, Derby-road, for Mr. J. R. Box. Mr. F. West, architect:—

	Shop-front.	Greenhouse.
Pearce.....	£33 0 0	£170 0 0
Page	33 0 0	157 0 0
Waller	24 0 0	127 0 0
Goulder & Glasscock.	29 0 0	107 0 0
Smith & Bulled	23 15 0	99 10 0

ENFIELD.—For erecting workroom at Enfield Union, for the Edmonton Board of Guardians. Mr. T. E. Knightly, architect, 106, Cannon-street:—

Hart.....	£328 0 0
Nottingham	320 0 0
Humphries	316 10 0
Wilson & Co., Limited	298 10 0
Torode	295 0 0
Reynolds	289 0 0
Pavey, Winchmore-hill	270 0 0
Linzell, Tottenham	261 0 0
Littlefield, Enfield	256 10 0
Brooks, Enfield (accepted)	235 0 0

EXMOUTH.—For the erection of coachhouse and stable at "Lawnside," for Mrs. Arthur Thompson. Messrs. Kerley & Ellis, architects, Exmouth:—

Webber, Exmouth	£147 0 0
West, Exmouth	139 0 0
Stokes, Exmouth	115 0 0
Tozer, Exmouth	109 9 0
Hayman, Exmouth(accepted).....	73 13 0

EXMOUTH.—For the erection of shop and house in the Victoria-road, for Mr. E. Ellett. Messrs. Kerley & Ellis, architects, Exmouth:—

Cooper & Son, Exmouth	£350 0 0 !
Pring, Exmouth	330 0 0
Ponsford, Exmouth	320 0 0
Hayman, Exmouth.....	319 19 0
Perry, Exmouth	290 0 0
Stokes, Exmouth.....	280 0 0
Tozer, Exmouth	215 15 0
Hooper, Exmouth (accepted).....	214 0 0
Webber, Exmouth	188 0 0 !

HAMPSTEAD.—For finishing four houses in Glenbrook-road, West Hampstead, for Mr. F. Ridley. Mr. Walter Hall, surveyor, Chancery-lane, W.C.:—

W. & B. Bardell (accepted).....	£700 0 0

HORDLE (Hants).—For erecting new vicarage. Mr. R. C. Reade, M.A., architect, Torquay:—

Rashley Bros., Lymington	£2,026 11 0

LEWISHAM.—Accepted for kerbing, channelling, paving, and making-up roads, for the Lewisham Board of Works:—

Woodham & Fry	Brownhill-road.....	£1,049 0 0
	Plassy-road	493 0 0
	Nightingale-grove ...	229 0 0
	Maythorn-cottages ...	187 0 0
	Maybank-cottages ...	189 0 0

LONDON. — For taking down and rebuilding the "Albany Tap" beer-house, Albany-road, Camberwell. Mr. G. Treacher, Architect:—

Burman & Sons	£2,189	0	0
Mills	2,150	0	0
Turtle & Appleton	2,090	0	0
Beale	1,998	0	0
Tyerman	1,935	0	0
Croker	1,925	0	0
Spence & Co.	1,900	0	0
Lobb & Olver (accepted)	1,821	17	0

LONDON.—For altering the position of iron gates, piers, &c., erecting new oak fencing, and other works, at the Blackstock-road entrance of Finsbury Park, for the Metropolitan Board of Works. Mr. Thomas Blashill, architect. Quantities not supplied:—

F. Blandford	£387	0	0
C. Killingback	380	0	0
Faulkner	296	0	0
Edwards	260	0	0

LONDON.—For alterations, &c., to the "William the Fourth," King William-street, Strand, W.C., for Messrs. Drew & Street. Mr. H. I. Newton, architect, St. Margaret's Offices, 49, Victoria-street, Westminster, S.W.:—

J. Vears & Co., Hyde-park	£1,232	0	0
Drew & Cadman, Holborn	1,158	0	0
C. F. Hewlett, City	1,037	0	0
E Spanton, Wimbledon	1,029	0	0
S. R. Lamble, Kentish Town	1,029	0	0
H Burman & Sons, Kennington-park (accepted)	887	0	0

LONDON.—For the erection of offices, 5, Salter's Hall-court, for Mr. George J. Woodman. Mr. Edmund Woodthorpe, architect, 1, Circus-place, E.C. Quantities by Messrs. Franklin & Andrews, 25, Ludgate-hill:—

		Allow for old material.
Colls & Sons	£1,900	—
Dove Bros.	1,896	£26
Rider & Sons	1,848	18
Shepherd	1,842	50
Harrison & Spooner	1,774	25
Lawrance & Son	1,670	—
Mark Gentry	1,650	—
Hosegood	1,573	—
Larke & Son	1,600	30
Ashby & Horner (accepted)	1,565	16

LONDON. — For the erection of workshop at 107, Upper Grange-road, Bermondsey, for Mr. R. Stronfeld. Mr. L R. Ford, architect, 24, Railway-approach, London Bridge, S.E.:—

F. Drake (accepted)	£220	0	0

NEWQUAY (Cornwall).—Accepted for the erection new villa residence, for Mr. W. Phillips.

John Harvey, St. Austell, mason and bricklayer, plasterer, slater, &c.	£326	0	0
James Julian, Truro, carpenter and joiner, plumber, smith, &c. (All grates, chimneypieces, &c., supplied)	300	0	0

NORTHAMPTON.—For erecting new shop, Kettering-road, Northampton, for Messrs. Withers & Sons. Messrs. H. H. Dyer & Son, architects, Northampton:—

G. Fisher	£750	0	0
W. Hickinbotham,* Teddington	705	0	0
A. P Hawtin	698	0	0
J. T. Wingrove	686	0	0
H. Martin	684	0	0
J. Pettitt	650	0	0
Green Brothers	634	0	0
W. Heap (accepted)	575	0	0

* Rest of Northampton.

PENDLETON.—For the erection of St. Thomas's new school:—

John L. Ward, Manchester*	£2,250	0	0

* Accepted.

PLUMSTEAD.—For additions to Woolwich Union Infirmary, Plumstead, for the Board of Guardians of the Woolwich Union. Mr. J. O. Cook, architect. Quantities supplied by Mr. C. W. Brooks:—

J. O. Richardson, Albert Works, Peckham, S.E. (accepted)	£8,724	0	0

[For full list of tenders see last week's *Builder*, p. 40.]

PORTHLEVEN (Cornwall).—For erecting new porches, decorating, part new seating, new rostrum, &c., to the Bible Christian Chapel, for the Trustees. Mr. W. White, architect, Penzance:—

James Julian, Truro (accepted)	£260	0	0

ST. AUSTELL (Cornwall).—For additions to Moor Cottage, for Mr. Edward Coode. Mr. W. Sambles, architect, Fowey:—

James Julian, Truro (accepted)	£520	0	0

SALFORD.—For the erection of St. Margaret's new schools for infants:—

John L. Ward, Manchester*	£1,313	0	0

* Accepted.

SHOREHAM (Kent).—For alterations, additions, and repairs to the "Crown Inn," Shoreham, Kent, for Messrs. A. Smith & Co. Mr. Thomas Potter, architect, Sevenoaks, Kent:—

E. Bevan	£334	6	8
G. Wood	310	0	0
H. Owen	302	10	0
Wiltshire (accepted)	294	0	0
G. Budgen	195	0	0

SIDMOUTH.—For the erection of shops and premises in Old Fore-street, for Messrs. Pepperell & Maeer, Messrs. Kerley & Ellis, architects, Exmouth:—

Hooper, Exmouth	£1,967	0	0
Searle, Sidmouth	1,962	0	0
Bucknell, Sidmouth	1,840	0	0
Holmes, Exeter	1,610	0	0
Perry, Exmouth	1,485	0	0
Turner & Skinner, Honiton	1,456	0	0
Hayman, Exmouth	1,354	0	0
Crutchley, Sidmouth (accepted)	1,300	0	0

STACKSTEADS (Lancashire).—For additions to house, lodge, and entrance-gates, for Mr. R. W. Munn, J.P., Heath Hill. Messrs. E. & F. Hewitt, architects and surveyors, 9, Albert-square, Manchester:—

W. Brown & Son	£1,427	0	0
R. Neill & Sons	1,370	0	0
J. W. Sutcliffe	1,368	5	0
James Ashworth	1,360	0	0
Simon Johnson*	1,250	0	0

* Accepted conditionally.

TRURO.—For the erection of cottage dwelling-house at Kea, near Truro, for Mr. James Old, of Truro. (All building stone and granite supplied):—

James Julian, Truro (accepted)	£207	0	0

TO CORRESPONDENTS.

A. D. D.—F. C. P.—R. B. & Son.—G. St. P. H.—J. M. F.—W. H. W. (too late for this week).

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender, not necessarily for publication.

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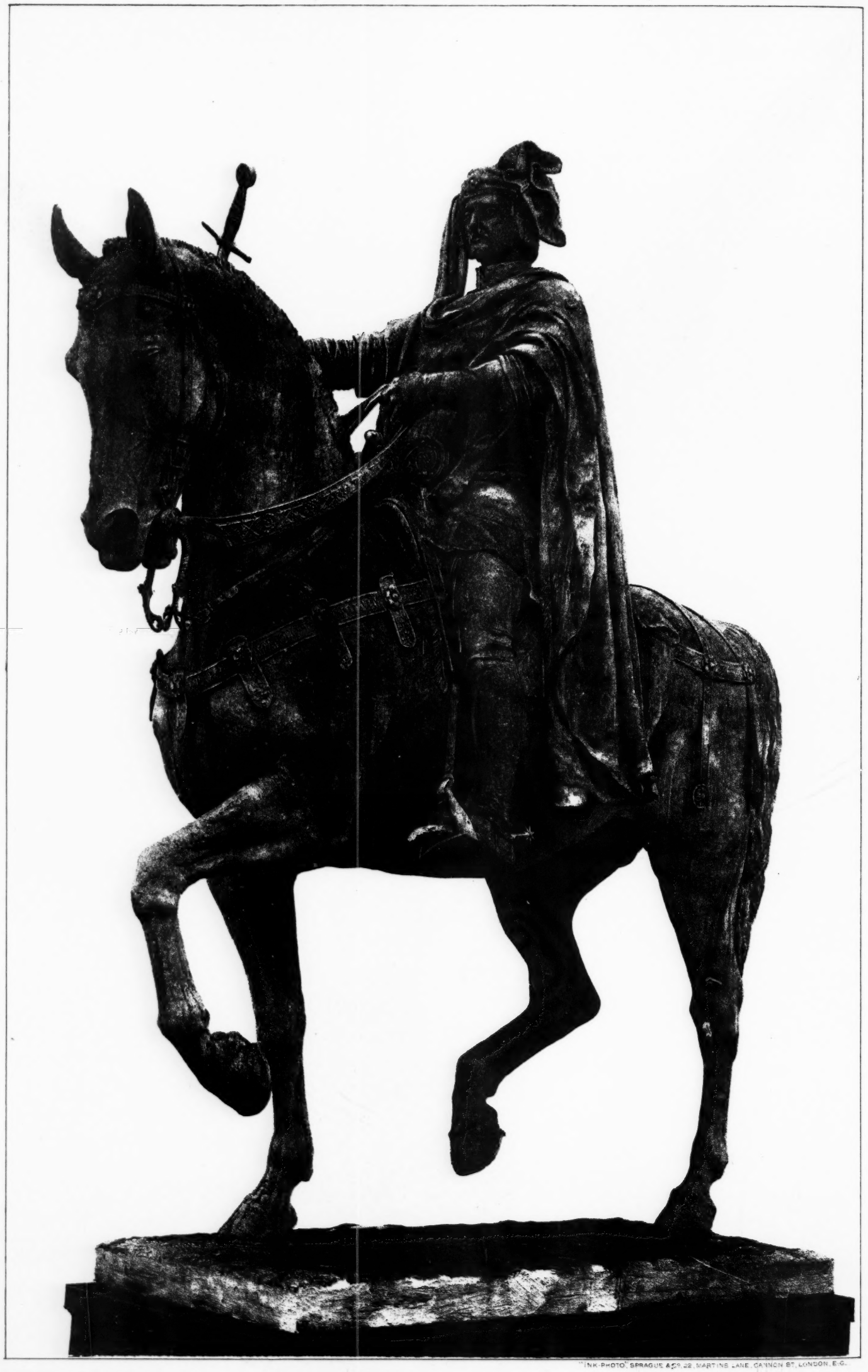

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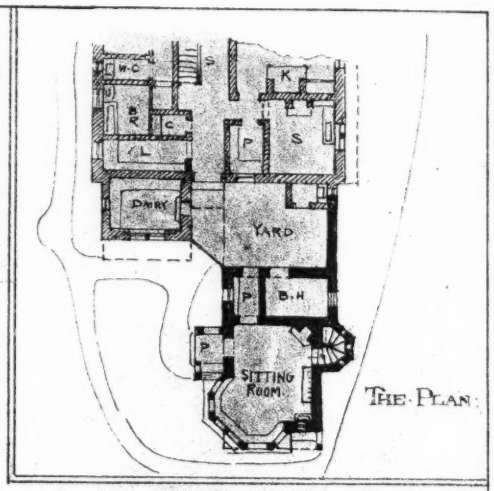
"LA PAIX ARMÉE:" STATUE ERECTED IN THE SQUARE D'ANVERS, PARIS—M. COUTAN, SCULPTOR.

Additions to "Rusholme" Crockham Hill : Kent :

Arthur Ardron Archt.



THE PLAN.

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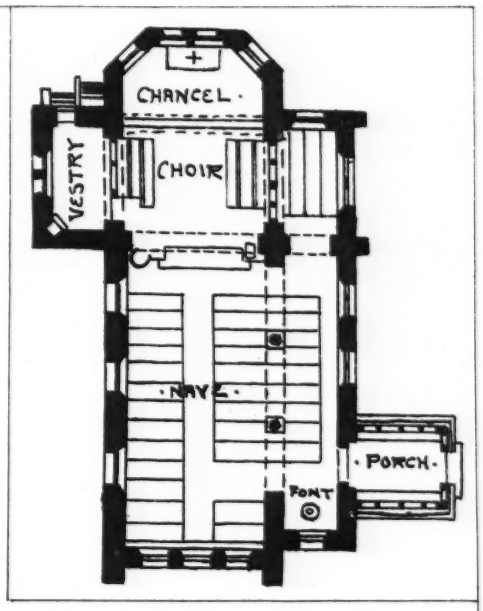

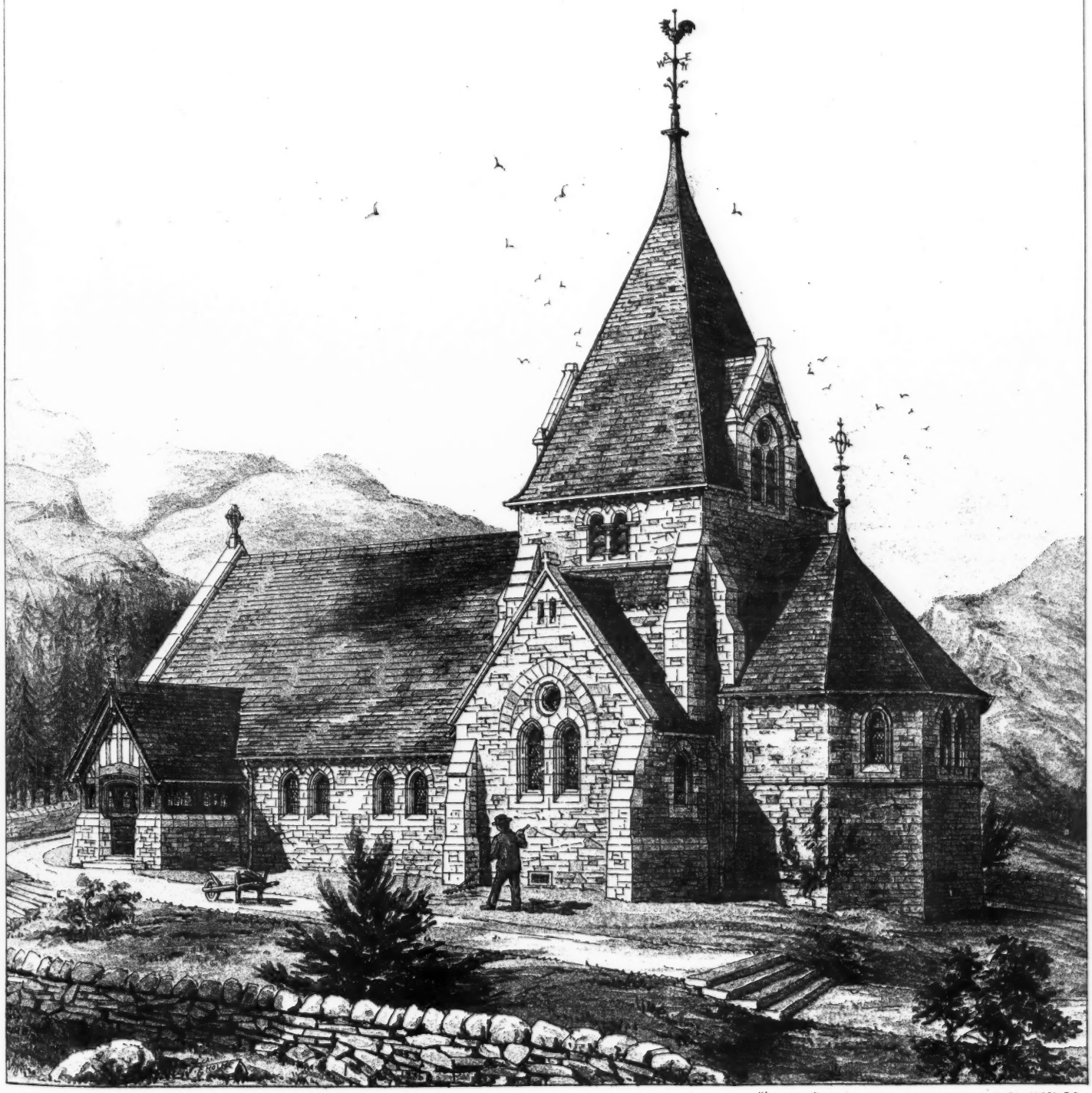

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CHURCH OF S. WDDYN, N. WALES.—Mr. F. U. Holme, F.R.I.B.A., Architect.

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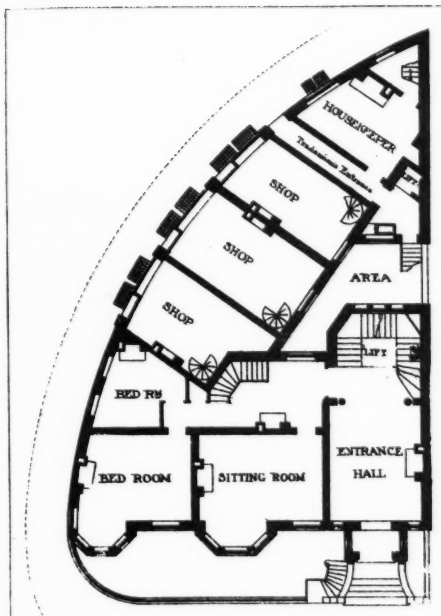
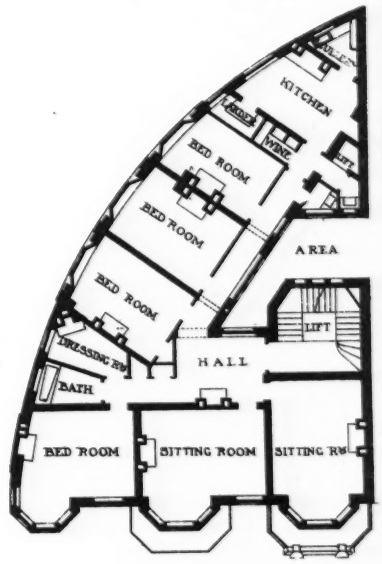
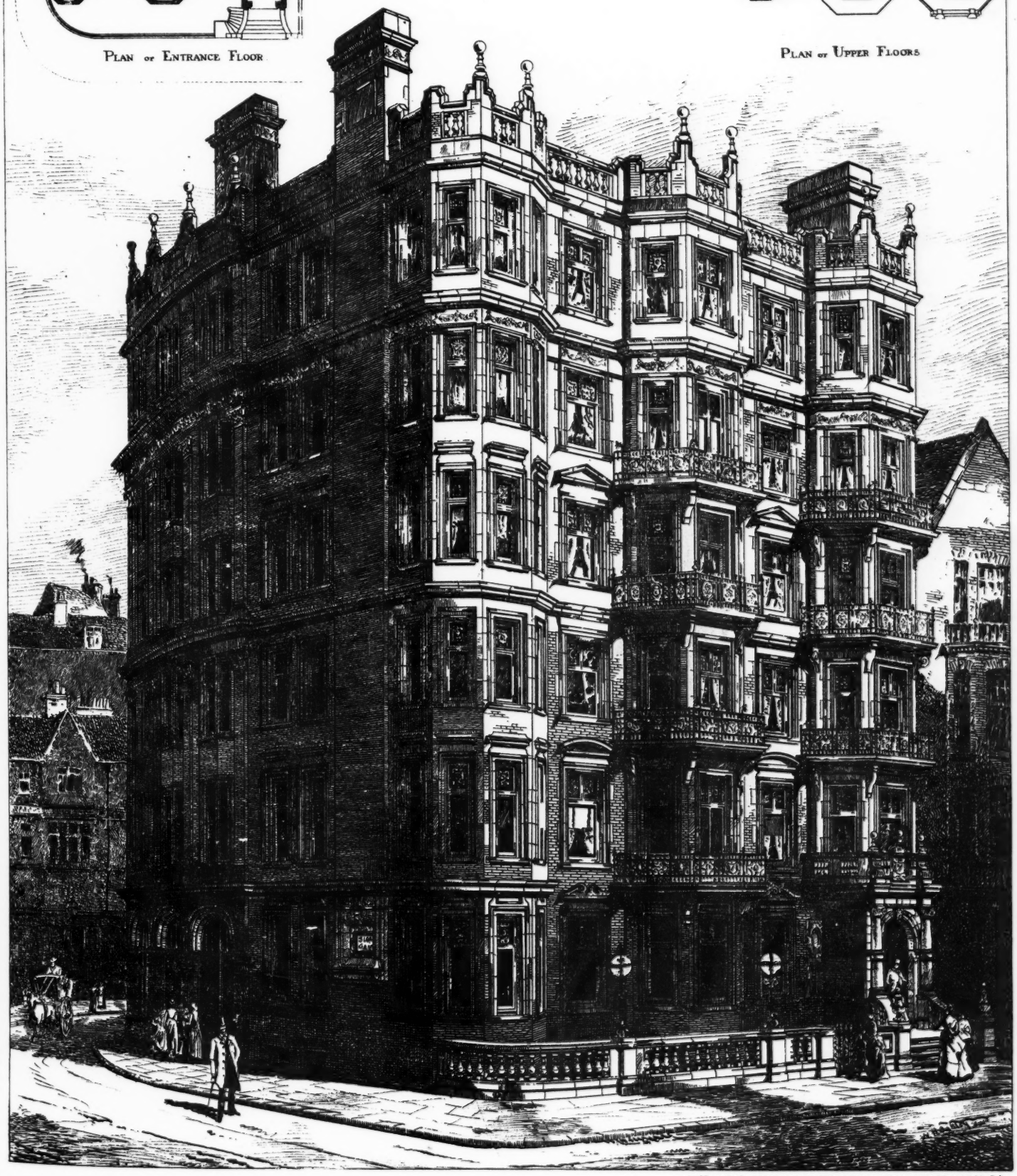
THE "GOAT IN BOOTS," AND THREE HOUSES, FULHAM ROAD.—Mr. T. H. Smith, Architet.



PLAN OF ENTRANCE FLOOR



PLAN OF UPPER FLOORS



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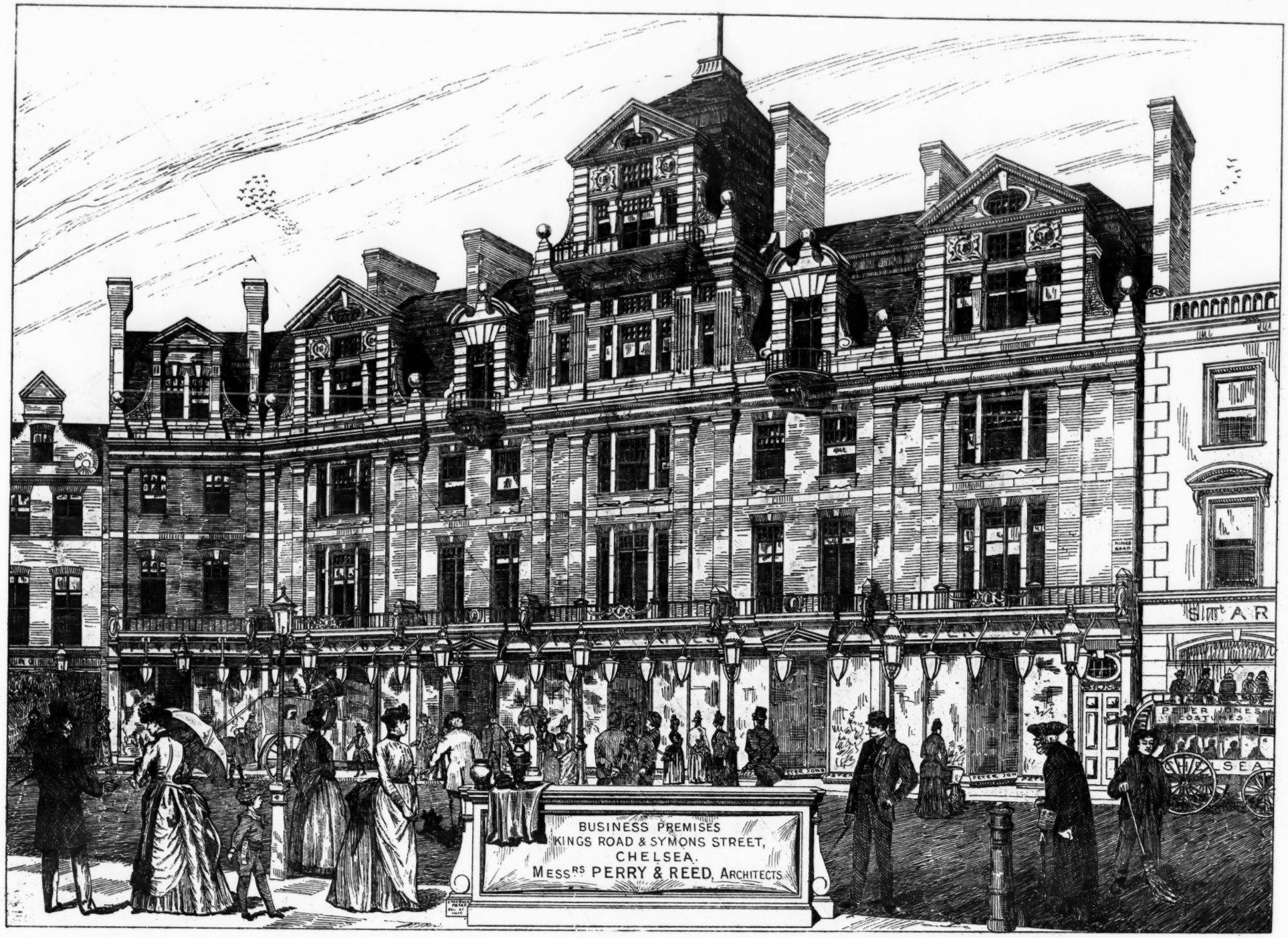
THE MANSIONS, SLOANE GARDENS, S.W.—MR. EDWIN T. HALL, F.R.I.BA., ARCHITECT.



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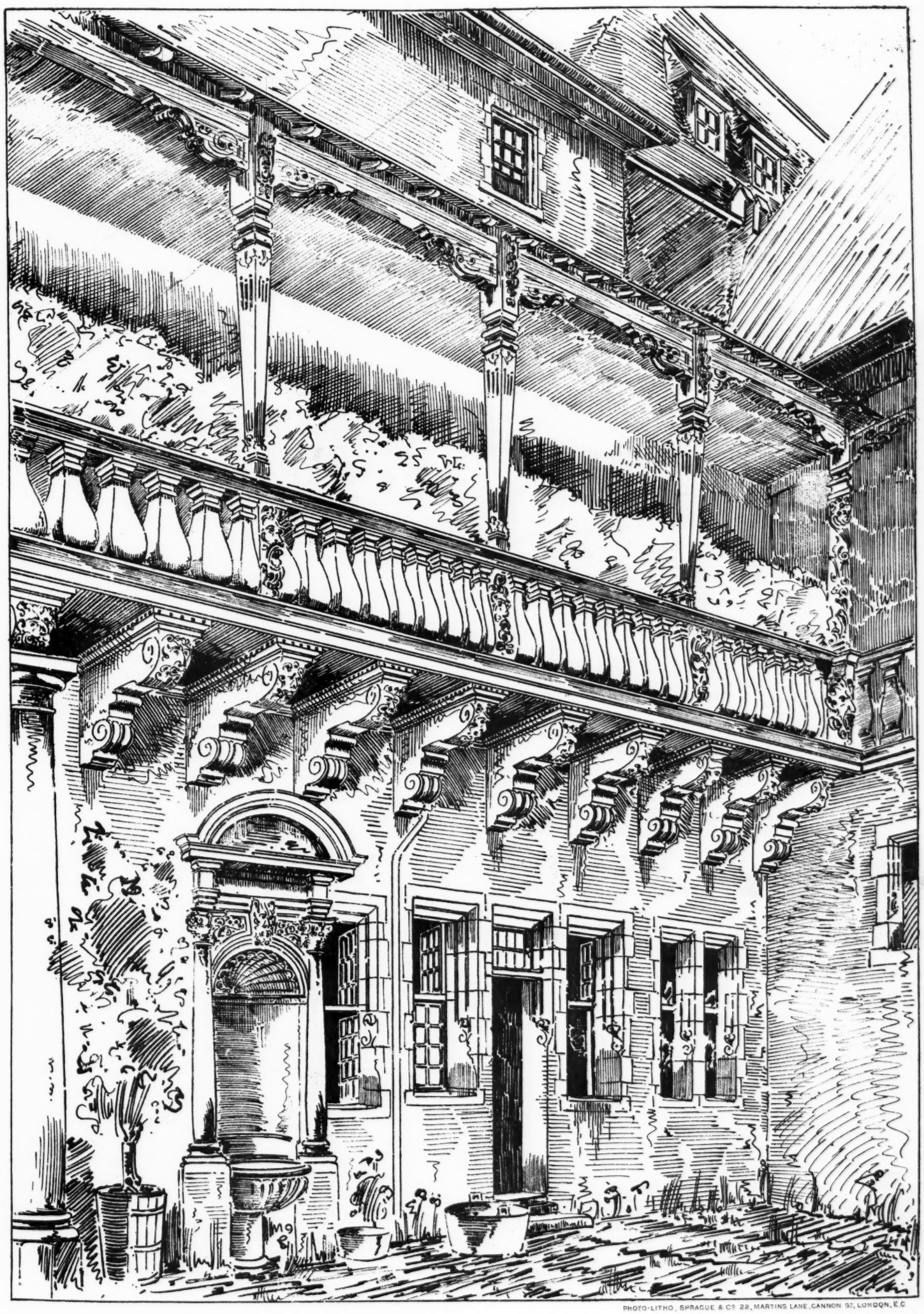

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COURTYARD IN THE ENGLISCHER HOF, MAYENCE.—From a Sketch by Mr. J. A. Jones.